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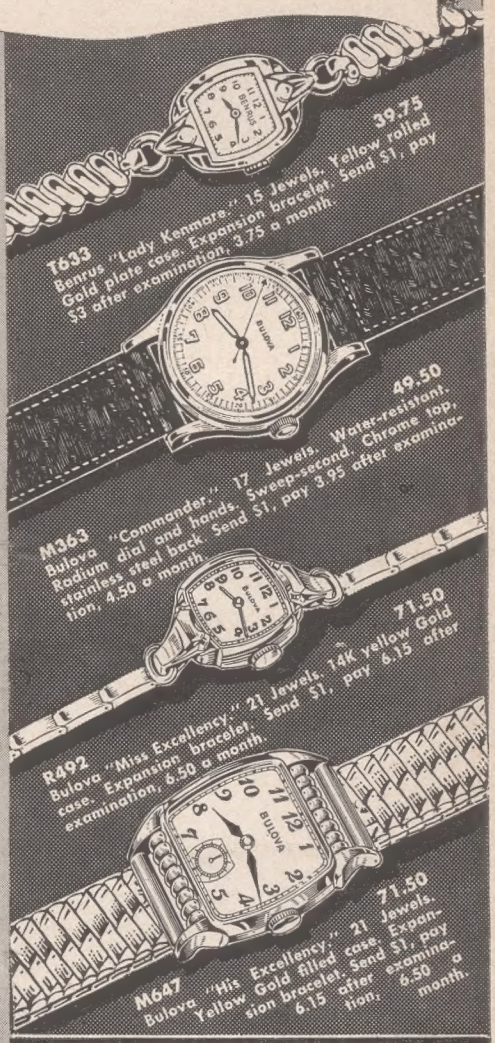

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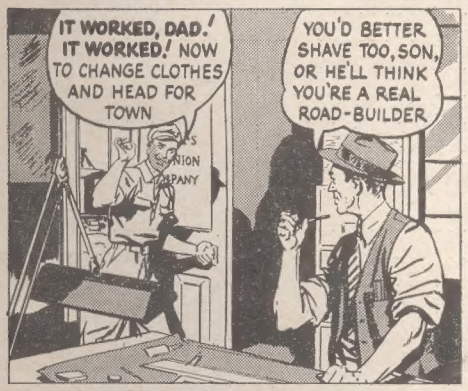
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Originally Railroad Man's Magazine, founded 1906

May, 1949 Vol. 48, No. 4 35 Cents

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By Frederick Blakeslee

ILLUSTRATED FEATURES

Monon ..... *Jack R. Maguire* 10
Cholly Clocker's Coolies ..... *Arthur B. Armes* 32

TRUE TALES

Booming Around (Part I of IV) ..... *Bill Wallace* 60
They Called Him Wooster ..... *W. V. Athanas* 88
Potato Pike ..... *Alan B. Todd* 96

FICTION

Experience ..... *William L. Rohde* 74
Whistle for the Crossing ..... *Richard Moore* 116

SHORT HAULS

Along the Iron Pike ..... *Joe Easley* 46
Locomotive of the Month *(Rock Island Switcher)* 58
Chairs and Sleepers 70
Mopac Train Washer 77
Locomotives of the Erie 110
Fiddletown & Copperopolis *(No. 9)* 124

DEPARTMENTS

Light of the Lantern *(Piston Rod Parting)* 48
Electric Lines *(Shaker Heights)* 78
Model Railroading *(Oldtime CNJ Boxcar)* 94
On the Spot *(Switch Shanty Gossip)* 125
Railroad Camera Club *(Switch List, Model Trading Post)* 140

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Solving the Car Shortage

A BRAZILIAN scientist, according to rumor, has come up with a unique solution to the shortage of rolling stock. His method: convert animals into railroad equipment. Sounds wacky, doesn't he? He is! But it can be done—on paper. Below are four members of the animal kingdom. From them add and subtract words as indicated by the definitions at the right (rearranging the letters after each operation), and in each case end with a piece of rolling stock! To give you the idea, we've started the first one:

DONKEY	*Stubborn 4-legged animal*
— KEY	*Device for opening lock*
= NOD	*Inclination of the head*
+ GOAL	*Destination*
= GONDOLA	*Type of coal car*

FIDDLER	*A kind of crab*
— ----	*Short for Frederick*
= ---	*A cover*
+ ---	*To preceive by the eye*
= ------	*Kind of engine*

BABOON	*Large ape*
— ----	*To seize or apprehend*
= ---	*Exlamation designed to startle*
+ ----	*Covering or receptacle*
= -------	*Always at the end*

ANTEATER	*South American mammal*
— ------	*One who eats*
= ---	*You get it at the beach*
+ ----	*Stand or frame for holding things*
= -------	*Chiefly for fuels*

(Answers on page 138)

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POPULAR FILMS

A Guide to Good Movie-Going For Fiction Fans

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For Sports: "Interference" with Victor Mature, Lucille Ball, Lizabeth Scott, Sonny Tufts (RKO).

A high-salaried professional football player, Pete Wilson (Victor Mature) has mingled woes with an expensive wife (Lizabeth Scott) and an unsuspected heart condition. *Training camp pictures, practice sessions and scenes from actual pro-games give the picture added interest.*

* * *

For Mystery: "Homicide" with Robert Douglas, Helen Westcott, Robert Alda (Warner Brothers).

A transient worker, looking for a job, finds murder and murderers on a citrus ranch in California. After being threatened, he testifies that the ranch owner's death was accidental. His isn't, a few hours later, and Lieutenant Landers (Robert Douglas) goes to work with a hunch and some unusual clues. *The sleuthing is better than average.*

* * *

For A Western: "The Streets of Laredo" with Macdonald Carey, William Holden, William Bendix, Mona Freeman (Paramount). Technicolor.

When three badmen split up and two get into the Texas Rangers by mistake, there's trouble afoot, pard. William Holden and William Bendix are the hombres who turn good and refuse to tip off their former partner, Macdonald Carey, on big jobs. *There's plenty of chase, shooting and blood in full color.*

* * *

For Adventure: "Down to the Sea in Ships" with Richard Widmark, Lionel Barrymore, Dean Stockwell (20th Century-Fox).

Although they finally lower the boom on Bering Joy (Lionel Barrymore), the old whaling master, he still has time to indoctrinate his young grandson (Dean Stockwell) into the ways of the sea and whaling. Before the old man dies, however, he tussles with his first mate (Richard Widmark), an 1887 ninety-day wonder, with an ill-fated whaling attempt, storms and icebergs. *For those that like some salt—in their pictures and their eyes.*

* * *

For Drama: "Knock On Any Door" with Humphrey Bogart and John Derek (Columbia).

Ex-Skid Row lawyer, Andrew Morton (Humphrey Bogart), unintentionally causes Nick Romano (John Derek) to become one of the more undesirable citizens on the wrong side of the tracks. Although marriage temporarily halts Nick's career of gambling and small-time thieving, he returns to his bad ways when he can't make the grade on an honest job. Picked up for cop-killing, he is defended by Morton in a trial packed with drama and suspense. *A bit grim but often powerful picture.*

* * *

For Intrigue: "The Bribe" with Robert Taylor, Ava Gardner, Charles Laughton, Vincent Price, John Hodiak (MGM).

Government agent Rigby (Robert Taylor), on an island off the coast of Central America, is in search of a gang which falsely condemns surplus airplane motors, reassembles and sells them at exorbitant prices in South America. In cracking the case, Rigby tangles with beautiful cabaret singer (Ava Gardner), her drunken husband (John Hodiak) and several assorted villains.

* * *

For Comedy-Romance: "Mother Is A Freshman" with Loretta Young, Van Johnson, Rudy Vallee (20th Century-Fox). Technicolor.

Mother (Loretta Young) is a financially embarrassed, young widow who actually does go to college when she discovers that a peculiar scholarship, for which she is eligible, will help keep her sophomore daughter in school. Actually, daughter has stars in her eyes for the dashing young professor (Van Johnson). Endless complications ensue when the widow's legal adviser (Rudy Vallee) and the professor tangle over her affections. Needless to say, all ends well with professor getting Mother, daughter getting handsome football star. Rudy Vallee loses the gal as usual but makes a lot of fun in doing it. *Light and amusing.*

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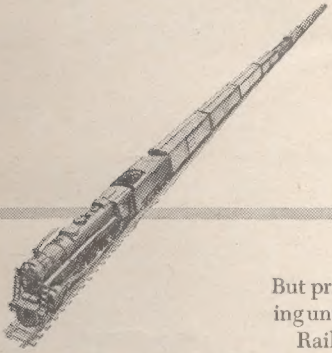

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When the war ended, these charges were no higher—and in many cases were lower—than when war began back in 1939. But prices and wages kept climbing until freight rates had to go up.

Railroad rates, though, went up *later* than other prices. By the time of the first small increase in freight rates, in the middle of 1946, the average level of other prices had already gone up more than 40 per cent above 1939.

And freight rates have gone up *less* than the average percentage increase of other prices—in fact, only about half as much.

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MONON

Few Railroad Executives Would Switch Jobs With John Barriger, Who Takes That as a Compliment

By JACK R. MAGUIRE

ONE of the best-known and best-loved of Indiana's many folk songs is a little ditty that ends with the line:

"Ireland must be Heaven
'Cause the Monon don't go there."

It's still being sung around the Bloomington yards, the Lafayette shops, and even at the swank French Lick Springs Hotel. But the derogatory tone is gone. Since 1946, amazed Hoosiers have watched their Monon, once the most dilapidated pike of its size in the Middle West, stage a comeback that may make it the first "super" railroad in America.

Less than three years ago, the Chicago, Indianapolis & Louisville—the Monon's official name—was everything the term "two streaks of rust" implies. Its once-famed passenger service had degenerated into a creaky local pulled by antique locomotives. Nearly all of its 3,000 freight cars were bad order and 40 percent of them were subsequently scrapped as not worth the cost of repairs. Its service to shippers was irregular and undependable. Even during the war, its revenues lagged.

Today, the Monon offers streamlined, Diesel-powered passenger service equal to any in the nation. Freight trains run on timecard schedules; shippers can have overnight delivery from any point on the line. Heavy steel is being laid, curves straightened, grades leveled, and centralized traffic control is on the way. Passenger revenues are up, shippers are coming back, and the morale of the employes is tops. Nowadays, Hoosiers who take a very real pride in the revamped and revitalized

Photos, unless otherwise noted, by J. F. Bennett

carrier are singing a new song that begins:

"Up and down the Monon,
Everything is fine!"

The story of how the Monon has accomplished all of this in a little more than 30 months is an invigorating chapter in U. S. railroad history. More than that, it proves that the pioneer spirit can still exist in these days of Dieselization and abandonments, for the man behind the Monon's rejuvenation believes that the Golden Age of Railroading is yet to come.

He is John Walker Barriger, the stocky, youthful president who took over this obscure 541-mile system in May 1946. During the previous 30 years, the Monon had been affectionately dubbed "the old Hoosier headache." Barriger, however,

has proved to be the aspirin it needed; during his presidency, he has gone a long way toward his goal of making the Monon a super-railroad.

"Railroads, if they're to survive against modern competition, must narrow the spread between their average performance and their best," says Barriger. "We're doing that on the Monon by integrating the best engineering methods and standards of operations over the entire property. Such a program cannot be accomplished in a few months, nor without heavy expenditures. When we are through, however, the results will show that our time and money were spent wisely."

John W., disciple of super-railroading

Railroad men — even those who don't approve of Barriger's ideas—agree that the Monon is the ideal line for his experiments. In the first place, it is short—just long enough to be a good-sized division in a larger system. Secondly, its operating problems are simplified, making the effects of new departures easy to observe.

Even the terrain of Monon territory lends itself to the trial of Barriger's ideas, especially those concerning grade reductions and the elimination of curves. One line bridges the Great Lakes and the Ohio River crossing Indiana from terminals at Michigan City and Louisville. Another runs from Chicago to Indianapolis. They intersect at Monon, thus giving the road its nickname. Most of the countryside consists of gently-rolling plains, with no mountains and only a few hills on the southern half of the Louisville mainline. This creates fewer operating hazards, and makes line improvements less expensive than they would be if greater natural barriers existed.

There's another reason why the Monon is an ideal guinea pig: the fact that it could hardly have been in worse condition and continued operations. The deterioration had been in progress for many years before the Second World War provided a four-year traffic windfall. But the war also caught the Monon with its facilities and equipment in no shape to fully capitalize on its opportunities or meet competition. After Japan's surrender in 1945, revenues plummeted to levels which would not sustain the cost of even minimum standards of maintenance and operation. Indiana citizens felt sure their favorite railroad was headed for abandonment.

If Barriger hadn't brought his revolutionary ideas to the presidency, the Hoosier Line might be only a memory now. Even he admits that the task he faced looked hopeless when, after six weeks on the job, he began to realize the extent of the problems he faced. "Nothing had been painted unless it had just been built," he says. "And nothing had been built unless it had recently fallen down."

TO BARRIGER, then 48 and just realizing his lifetime ambition to be a railroad president, the Monon presented a challenge that called for know-how and hard work. Experienced in both, he rolled up his sleeves and plunged in. The problems facing him were so overwhelming that it was difficult to decide where to start. Realizing that customers were the first necessity, Barriger went to work getting the service back to normal.

Since the Monon's lifeblood is freight, he attacked this problem first. Of the road's 3,000 freight cars, 1,286 were in such bad order that he demolished them. Then he ordered 500 new boxcars, 100 new hoppers and 100 new covered hoppers as partial replacements. Heavy repairs were given to 500 cars of various types deemed worth saving.

Although the car situation was bad, the motive power was worse. The 72 antique teakettles in the roundhouses represented

160,000 horsepower—enough to handle the Monon traffic, then down to less than 400 revenue loads per day. All were either obsolete or in need of so many repairs that Barriger thought it cheaper to junk them. The last locomotive had been bought in 1929, and the management at that time had insisted that the cost would not exceed $80,000 each. Price, not operating necessities or efficiency, determined a locomotive's specifications.

The Monon got just what it paid for. After nearly 20 years of service — or more—few locomotives were fit for service. The three Diesel switchers, purchased during the war, were an exception. With them in mind, Barriger weighed the problem of modernization.

Coal was, and still is, one of the Monon's principal traffic items. The president felt that he owed it to his shippers to use coal-burning locomotives as long as such power was feasible. Yet many factors argued that Diesels were more efficient and less expensive to keep in repair. Barriger decided to Dieselize, hoping the mining industry along the Monon would be content with the lower operating costs and faster train and yard service Diesels could provide, overlooking the loss of the Monon as a customer.

There was another strong argument for Dieselization. Such a step would enable the C I & L to retire all water tanks, coal chutes, cinder pits and other roadway facilities needed for steam power—facilities which represented an investment of several million dollars in book value, although now obsolete and in disrepair. In addition, studies indicated that only 74,000 horsepower in Diesels would be required to handle the same Monon traffic that was keeping 160,000 hp. in steamers busy.

The Diesels won out. With an eye for publicity, Barriger announced that the Monon would be the first completely Dieselized Class I railroad of its size in America. Thus far it hasn't achieved this dis-

Modern repair facilities like these pits at Lafayette, Ind. nullify a material part of the savings effected by retiring water tanks, coal chutes and cinderpits. But Barriger is 100 percent sold on Diesels

An Alco road switcher grinds out ton-miles with a wayfreight. Versatile as an old 4-4-0, her next assignment may be a passenger train or eight hours on the terminal ladder tracks

tinction, for traffic has increased so fast that the 74,000 hp. of Diesels can't handle it. Yet the goal is in sight. The 37 Diesel units in service are enough to power the Northern Division, including all rail north of Lafayette. On the Southern Division, however, ten steam hogs are still pulling mainline drags, though their end is near. Three 1,500 hp. road switchers and two 600 hp. yard switchers are on order. When these are delivered sometime in 1949, they will fulfill Barriger's dream of complete Dieselization—unless the steady upswing in traffic makes the acquisition of additional power necessary.

WITH the freight-car and motive-power problems on the way to being solved, Barriger turned his attention to the Monon's deplorable passenger service. "The 5 O'Clock Monon" each way between Chicago and Indianapolis, once the pride of Indiana, was gone. So were the other famed trains Hoosierland had loved. The local between Chicago and Louisville was all that remained: its wooden coaches with steel underframes averaged 40 years of age.

Many other railroad presidents faced with this problem have let income reports be their guide and abandoned "unprofitable" passenger service. Not Barriger. "The possibilities of passenger traffic as an earner of net income deserve a thorough testing which they have never received," he told co-workers. "We're going to test these possibilities on the Monon by giving Indiana the only class of passenger service any railroad should offer: the best!"

This was not the idealist or sentimentalist talking. Barriger has been a railroader all of his life. His father was a civil engineer for the Cotton Belt when John, III, was born in Dallas, Tex., in 1899. Shortly after, the family moved to St. Louis where the elder Barriger held high positions with the Frisco, Cotton Belt and other lines, and young John visited yards with his father, deciding to be a railroad man—in fact, a railroad president.

At 17, Barriger began his career with the Pennsylvania as a shop worker at Altoona, Pa. Four years later, he had graduated from Massachusetts Institute of Technology and advanced through a number of operating jobs on the Pennsy. With this sound knowledge of operations behind him, he began studying railroad finance. During the next six years, he analyzed rail securities for New York investment firms, inspecting Class I roads to determine the physical, operating and traffic factors which would explain their finances and earning power. As a result, he is one of the best informed officials regarding U. S. railroad mileage.

By 1933, the railroad industry began looking to Barriger for answers to its depression problems. On the basis of this reputation, he was asked by Boston financier Frederick H. Prince to prepare a plan of railroad consolidation. Out of this came the famed "Prince Plan" which sought to merge the railroads into seven regional systems. A committee of railroad officials decided the plan was not feasible at that time, but it put Barriger in the spotlight. He was asked to head the Railroad Division of the Reconstruction Finance Corp.

In 1942, the Office of Defense Transportation drafted Barriger as federal manager of the strike-bound Toledo, Peoria & Western. He settled the strike, got the road's affairs in order, and returned it to private management with increased earning power and traffic. But not until 1946 did he get what he really wanted: a test laboratory to assay all the ideas and experience he had gained in 30 years' railroading.

"The offer entailed the risk of sinking into oblivion with the railroad," he says today, "but I saw in the Monon a chance to put some of my own ideas into practice for the first time. I've been delighted that I accepted, and I have never had a more interesting or happy association."

Barriger's notions on passenger service were regarded as radical by many. His basic argument was this: the bulk of railway investment is in roadway and track, yet on busiest railroads most track

Above: Solid stone train. Quarries contribute one of Monon's 3 most important originated freight commodities. *Below:* Shops at Lafayette. Roundhouse has been razed since photo was made; plant to left of it converted hospital cars to coaches

Courtesy Monon

No inconsistency here. Steam-powered 551 with coal extra, south, gets the board through the automatic interlocker at Gosport Jct. crossing with the PRR

Lafayette didn't sleep here. Barriger bypassed car manufacturers' backlog; bought 28 surplus hospital cars and converted them into handsome coaches at a total cost, per unit, of about $50,000

handles less than 50 percent of the movements it could accommodate. Barriger claims that any passenger train which earns anything above out-of-pocket cost and uses this spare track capacity is making a profit. Passenger service, says he, is a by-product—not a primary product—of railroading and its expenses must be analyzed from that standpoint.

If railroads offered passenger service on this basis, they would be giving the public a convenience generally denied it. The Monon president contends that railroads have concentrated on serving the *have-to-travel* market, thereby neglecting thousands of Americans who would ride trains voluntarily if offered the kind of service they want. To prove his reasoning was right, he announced that the Monon would offer a full schedule of first-class passenger service as soon as new equipment could be bought. Meanwhile, he put the trains in service with the ancient cars the road owned.

In 1946, however, improving passenger service was easier said than done. Virtually every big railroad in the country, its equipment worn out with war traffic, was buying new cars. Behind on orders, builders couldn't promise delivery on new Monon trains for two years or more. Barriger was not discouraged, however. The Government had a surplus of semi-streamlined hospital cars built by a standard railway manufacturer; floor plans and window-spacing duplicated those of some of the new streamliners. And the Government was willing to sell them at $16,500 each—a fraction of their original cost. The Monon bought 28 and shipped them to the Lafayette shops.

Raymond Loewy, internationally-famed designer, redesigned these "mercy" cars into coaches, lounges and diners. Then the Monon went on a nation-wide search for skilled carbuilders, bringing them to Lafayette to supplement the four experienced passenger-car men already in its shops. Within a few months, at a total expenditure of approximately $500,000 a car, the road had two new trains.

Long before the streamliners went into service, however, travelers across Indiana had a wide choice of Monon trains. One of the first restored was *The Hoosier,* the afternoon train each way between Chicago and Indianapolis which Indianians had affectionately termed "the 5 O'Clock Monon" in the old days. *The Tippecanoe,* serving these two cities, went back on the schedule also, and the local between Chicago and Louisville became *The Thoroughbred* in fact as well as name. *The Bluegrass* was a new addi-

Right: **A mercy car becomes a Loewy bar. Undeclared dividend of the Lafayette-engineered conversion is shopmen's pride in an accomplishment undreamed of in the dark days when Monon was "economized into starvation"**

Below: **The same car, before and after conversion. Comparable equipment, bought new, would cost in the neighborhood of $100,000**

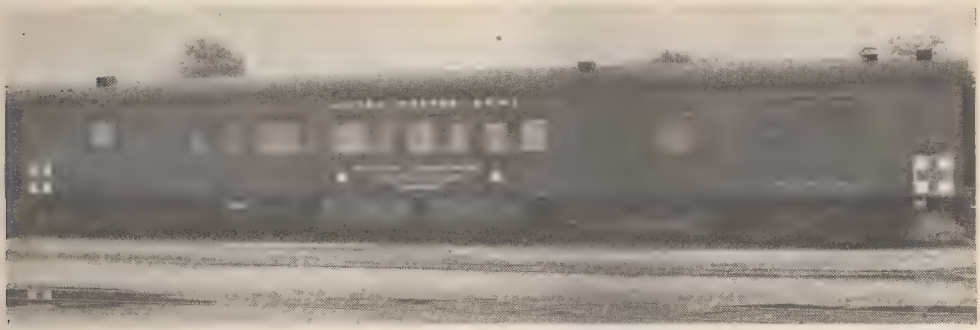
Courtesy Monon

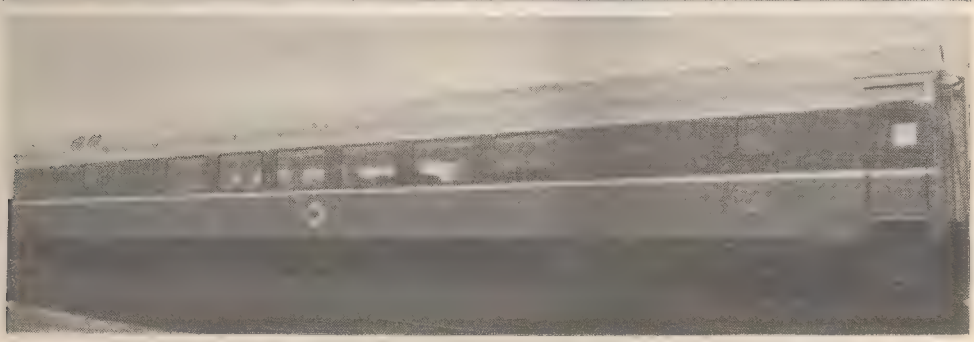
tion, with set-out sleepers to and from French Lick Springs, one of the Middle West's favorite resorts.

Barriger used whatever equipment he had without apology. "The people along the Monon deserve the best service we can offer," he said, "but until our new cars are ready, this equipment must do." The Hoosier folk liked this straightforward policy: they began riding the trains. By the time the Monon's first streamliner went into service in the summer of 1947, the CI&L had already won back much of its once brisk passenger business.

YET NEW passenger trains, motive power, fast schedules and dependable service were not sufficient for successful operation of the Chicago, Indianapolis & Louisville. The most serious problem facing the Monon was its right-of-way.

"Every railroader has his pet theory about the biggest problem in railroad operation," Barriger says. "Some will say it is truck and water competition, others will blame wages, taxes or freight rates.





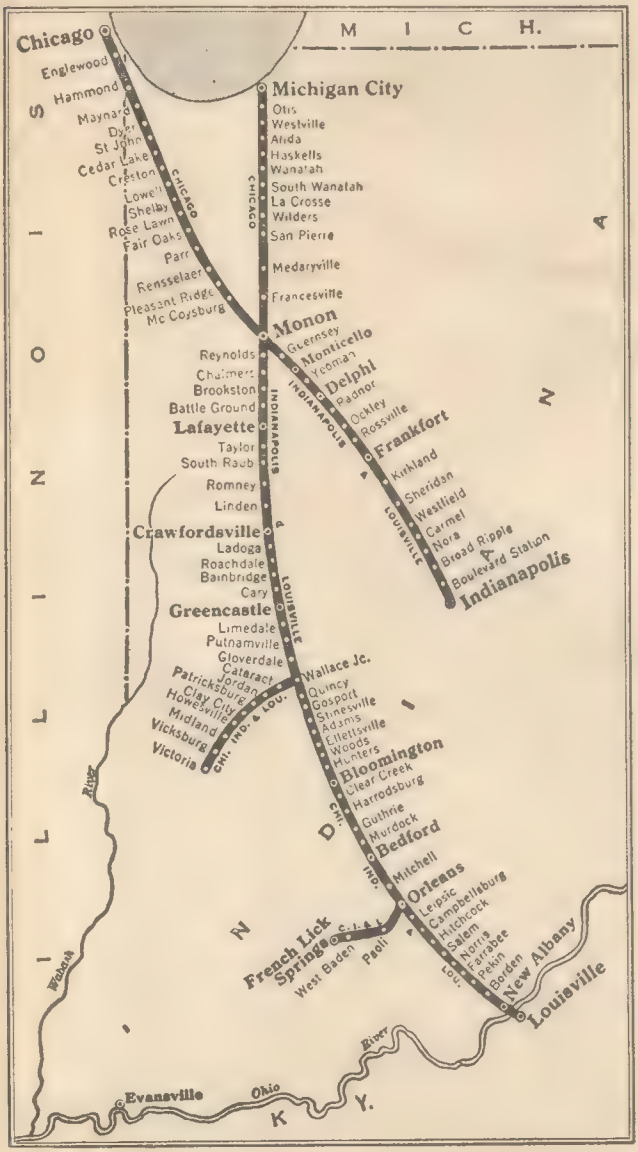
I contend that curves and grades cut speeds and increase operating costs to such an extent that they are the fundamental problems we must solve if we are to continue to meet competition."

Operating on this theory, the new Monon president set out to eliminate all mainline grades .5 percent or heavier, all curves more than 2 or 3 degrees. This will be the costliest part of his super-railroad program, but in the long run it will undoubtedly be profitable. Such roadway improvements must be long-range: the Monon is tackling the most troublesome spots first, and will iron out lesser problems later.

The first major project was a relocation of 3.67 miles of track between Armour and Creston. This line skirted Cedar Lake, a popular resort, and had long been a headache. Here the Monon crossed 963-foot Paisley trestle, spanning a bog so bottomless that 90-foot pilings never touched a solid foundation. Curves were so sharp that trains circuited the waterfront on permanent slow orders. This condition, plus heavy grades north and south of the lake, formed a barrier against the establishment of freight-train loading between Lafayette and Chicago.

But the new line completed early this year lies west of the old road on high land. Its maximum grade is only .5 percent, its three short curves of one-degree radius. And while this major project has been in progress, the rest of the Monon has not been neglected. When Barriger took over, about 75 percent of mainline trackage was laid with rail below 112-pound, the minimum standard for the service his road will eventually offer. To remedy this, the president planned to lay 50 miles of new 112-pound rail each year until the entire mainline met this standard. The general shortage of steel has retarded this program, as has the high cost of replacement. Still the job is under way.

During 1947, only 17 miles



X marks the spot from which the Chicago, Indianapolis & Louisville takes its now official nickname

Railroad, highway and stream make a three-level crossing near Clear Creek, Ind. *Mikado* 514 is working the Stone Branch south of Bloomington

of new, heavier steel was laid. By the end of 1948, another 21.5 miles was completed. With the steel shortage easing, the 1949 program calls for the placement of 35 miles of new rail, and the same amount in 1950 and 1951. Meanwhile, the Monon's big steel is being improved insofar as possible and all bridges are being put in first-class condition.

The new Hoosier Line which is emerging under the guiding hand of Barriger is a modern version of the fine transportation system visualized by the Indiana pioneers who built it a little more than a century ago. These were rough-hewn Midwesterners who had migrated to Indiana to seek their fortunes, and found they needed a railroad to cart their goods to market. The idea of an iron roadway to join the Great Lakes and the Ohio was born in the rich valley that lies across the river from Louisville. The men who had settled there believed in the future of Indiana and realized the value of the almost limitless natural resources which even today are vital to the Monon.

Knowing this land would make them potentially rich men, though actually they were poor, these settlers were faced with a dilemma common to pioneers. They needed a railroad to develop the resources at hand, yet they couldn't build it without the money such development would bring. So they gambled their future by mortgaging the present: on May 29, 1847, a small group met at Providence (now Borden) and organized the New Albany & Salem, forerunner of the Monon. Shares were priced at $50 and there was to be $200,000 in capital stock—enough, the promoters believed, to lay the proposed 35 miles that would link the rich country around Salem

with New Albany and port facilities on the Ohio.

James Brooks, a successful New Albany merchant, was elected president, and on his shoulders fell the job of raising the necessary capital. This was easier said than done, although everybody favored the railroad. The terminal communities and individual farmers along the proposed line provided free right-of-way; all who could afford it subscribed to stock. Beyond Salem, other towns like Bedford, Bloomington, Greencastle and Lafayette heard of the coming railroad and subscribed for stock in exchange for an agreement that the line would be extended to service them.

William George Lyman, first treasurer of the Monon

By 1852, Brooks and his directors had sold $1,900,000 in stock and the road had been charted across the state to Michigan City on the lake. A branch from Gosport was to connect Indianapolis, 43 miles northeast, with the main route. There was even talk of extending the line west from Michigan City to Chicago by tracing the shore of Lake Michigan. And while some of his directors dreamed of a completed system, Brooks saw to it that rail actually was going down on the rich Indiana soil a few miles at a time.

SLOWLY but surely, New Albany & Salem began to take shape. The teamsters with scoops and the pick-and-shovel battalions hardly finished a grade when the rail gangs moved in. First came the ties, seven and a half feet of native white oak, hewn by hand and laid four feet apart. Each end was notched so that the stringers could be imbedded and fastened, thus holding the gage and preventing any spread.

Rails were diminutive flat-iron bars weighing only 22 pounds to the yard. They were laid longitudinally on the stringers and fastened by spikes driven through the center about 18 inches apart. Spikes were countersunk to prevent their projecting above the surface. A tongue and groove joined the rails together.

As might be expected, this connection made expansion almost impossible. When the hot Hoosier sun beat down upon the new road, the expanding rail often tore itself from the ties. More than one New Albany & Salem train wound up in a ditch because of the caprice of the summer sun. Yet by 1853, the flat iron was giving service as far as Orleans, 63 miles north of New Albany and 21 miles above Salem. Then an early T-rail was introduced, and most track laid after 1853 utilized this innovation. Some years later that flat iron was replaced entirely by T-rail.

Meanwhile, other railroads were being built which were to have a bearing on the Monon system as it is today. In 1846, the citizens of Crawfordsville decided to construct a railroad north to Lafayette on the Wabash River. Fearing that this line might eventually become a competitor, Brooks took it over in 1852 through a stock exchange, after agreeing to assume $175,000 in bonds. Later he made another advantageous trade for the tiny NA&S—a deal which gave it entrance to Chicago.

The Michigan Central had built westward to a point near Michigan City, Ind., and was seeking a charter to stretch its trackage across Indiana into Chicago. The charter was flatly denied. Michigan Central officials, realizing that the MC's only hope for survival lay in a Chicago connection, prevailed on Brooks to help. Brooks' road held a blanket charter permitting it to lay rail anywhere in the state. This charter could not be transferred to the Michigan Central, but the shortline could legally agree to construct the line from Michigan City to Chicago

itself and let the MC pay the bill. As a result, the Michigan Central subscribed to $500,000 worth of New Albany & Salem stock, and the NA&S put down steel from Michigan City to Chicago, using the money supplied by the new stockholder.

Brooks also used the half-million dollars invested in his carrier to continue construction south from Michigan City to Lafayette. The last rail on this segment was laid in 1853. This gave the NA&S 231 miles of line in operation. It extended north from New Albany to Gosport and south from Michigan City and its lake port to Crawfordsville. The 56 miles between Gosport and Crawfordsville was the only road block in connecting Lake Michigan with the Ohio River.

Construction of this segment began in the summer of 1853 with crews working out of each terminal. Brooks drove his men hard, going personally to the railroad often to cheer the gangs on. After nearly a year of grueling labor, the trackmen met June 24, 1854 at Putnamville, a small village seven miles south of Greencastle. At 4 o'clock one humid afternoon, the last rail was hoisted into place and spiked down.

The small crowd of farmers gathered for this historic event might have heard Brooks give a sigh of relief. After seven years, the job he had set out to do was finished. In 1847 he had had doubted that his fellow pioneers could raise $250,000 to complete 35 miles of railroad. Now the NA&S had 288 miles of line and an investment of $6 million, money which had come mainly from the slim pockets of businessmen and farmers along the route.

Much of the work was imperfectly done, to be sure. Today, President Barriger is correcting some of the faults which have persisted since Brooks saw his first rail laid nearly a century ago. But Indiana had a railroad, and that was the thing that mattered. Brooks knew it would be a harbinger of prosperity.

On July 15, 1854, thousands of pioneers from Indiana and Kentucky gathered at New Albany on the banks of the Ohio to dedicate the new railroad in formal ceremonies. President Brooks pronounced this wedding of the commerce of the river to that of the Great Lakes and predicted that the union meant good fortune for everybody along the line. And it would be pleasant to record that the future of the NA&S was as auspicious as this beginning; but such was not the case.

TRAFFIC did flow freely over the New Albany & Salem. Long drags of stone, lumber and farm products moved with increasing frequency. Passenger trains with a ladies' car on the rear—where no man except road officials dared enter—provided fairly good service and had good patronage. Nor was there any recorded labor trouble: the conductors

Louisville, New Albany & Chicago's No. 28, *The Traveler*, after rebuilding at Michigan City Shops in 1860

Courtesy Monon

Courtesy Monon

Daily milk train pauses at Lowell, Ind., on a winter's morn in '86. The Hoosier Line had recently acquired a permanent Chicago terminal and its prosperity seemed assured

and engineers were apparently content with their $83.33 wage for 30 straight 12-hour days.

But in 1856 the nation was swept by an economic depression. Perhaps the first sign of it on the young Indiana road was the decision to pay train crews in part with meal checks in lieu of full wages. These checks, good for 15 cents each, would buy either a full meal or a night's lodging along the line. They did not become legal tender, however, until the public presented them to the company for cash redemption.

By the fall of 1858, the NA&S could hold on no longer. Drought hit Indiana, searing the rich fields and leaving the countryside barren. Revenues plummeted since farmers had nothing to market. The interest was due on the New Albany's bonded debt, and rolling stock needed repairs and replacements. On October 1, the carrier went into receivership and shortly after President Brooks retired. A year later—on Oct. 24, 1859—the line became the Louisville, New Albany & Chicago and a new board of directors was named.

The first few months following the reorganization were uneventful. Then in 1861 Civil War split the country; the LNA&C assumed a new importance since it provided a direct and vital tieup with the South. From the outbreak of war, a constant stream of military traffic flowed down the rails to New Albany and Jeffersonville where it was assembled for reshipment over the Louisville & Nashville which had been opened in 1859.

Reorganization, however, had left the little Hoosier line ill-equipped to meet the contingencies of war. Its rolling stock was insufficient to meet the military demand which required more cars in one day than regular passenger service utilized in a month. To supply the Army's needs, freight and stock cars were converted into coaches simply by adding crude wooden seats. But the resulting freight-car shortage forced the road to refuse shipments of vital goods.

Despite this equipment shortage, the road profited from the war traffic. Even mutilated tracks, razed depots and other depredations by Confederate raiders at Salem failed to wipe out its monetary gains. For the most part, however, this cash went for immediate needs. And when Lee surrendered at Appomattox, the Hoosier line was in the red again.

Broke or not, the LNA&C was to play one more role in the stormy history of the period. Abraham Lincoln had been killed on April 14, 1865 by an assassin's bullet and his body lay in state in Indianapolis during the journey of the funeral train from Washington to Springfield, Ill. From the Indiana capital, the train moved to Lafayette via the Lafayette & Indianapolis Railroad (now the New York Central). At Lafayette, it was transferred to the Louisville, New Albany & Chicago.

As the train steamed slowly out of Lafayette—on the road that was to become the Monon—a local band played a dirge. Even at 3:45 a.m. that May morning, hundreds of people jammed the right-of-way, their bonfires reflected eerily on the yellow cars striped with bands of black. A pilot engine draped with an American flag preceded the funeral train, while the locomotive on the special carried a large picture of Lincoln on the boilerhead and crepe was hung from the cab. At 8:35 a.m. on May 1, the train reached Michigan City and was transferred to Michigan Central rails. This event climaxed the Monon's Civil War story.

FOLLOWING the war, the financial condition of the LNA&C grew steadily worse. The loss of the troop movements and military traffic slashed revenues, and unfortunately a heavy blow was dealt its economy by the discontinuance of through traffic between Chicago, Indianapolis and Cincinnati. This latter had been made possible when the Indianapolis & Lafayette Railroad established a rail line from Cincinnati through Indianapolis, Lafayette and Michigan City to Chicago. This route was popular, and the LNA&C through its participation shared in the sizable revenues.

But shortly after the Civil War, the

Left: No. 9, ***The Admiral***, in full-dress at French Lick. During heyday of this wood-burner, LNA&C was in constant financial turmoil

Right: Last year, in good-will gesture, the B&O loaned its ***William Mason*** for Centennial celebration of the line which it nearly acquired under Railroad Consolidation Act of 1920

Courtesy Monon

Indianapolis & Lafayette constructed a roadway between Lafayette and Kankakee, giving it a new route to Chicago and depriving the LNA&C of the through traffic. The Michigan Central, which had been paying back its earlier benefactor by operating freight and passenger trains as far south as Lafayette, also withdrew its support. As a result, the little Hoosier line underwent two reorganizations between Oct. 1, 1868 and Dec. 27, 1872, emerging from the latter with the same name but as a revamped company.

Heading the list of "musts" for the new management was a direct connection with Chicago. Yet nine years passed before any change became apparent. But in September 1872, the Indianapolis, Delphi & Chicago began building a narrow-gage line from Rensselaer to Delphi, which it completed on Sept. 4, 1879. Early in 1880, the ID&C was taken over by the Chicago & Indianapolis Air Line Railway Company and construction of an additional 43 miles from Rensselaer to Dyer, Ind., near Chicago was started.

On May 5, 1881, Louisville, New Albany & Chicago officials acquired the narrow-gage Air Line and promptly relaid it to standard width. The road was extended to a junction with the Chicago & Atlantic (now the Erie) near Hammond, Ind. by 1882, and for a while the LNA&C used the C&A as a 1½-mile link with the Chicago & Western, Indiana's direct line to Chicago. In 1884, however, officials decided to build their own extension to the Western Indiana, and later leased this line for 999 years. This assured the road a permanent Chicago terminal.

With terminals now in both Indianapolis and Chicago, the LNA&C found itself in an enviable competitive position. Yet its prosperity was short-lived: financial panic swept the U. S. again in the early Nineties. Toughened by previous financial difficulties the little road went into receivership, but kept its identity despite efforts of bigger lines to take it over. On March 31, 1897, it was reorganized as the Chicago, Indianapolis & Louisville Railway Co., its legal name today. Under this new charter, it acquired all property of the old Louisville, New Albany & Chicago Railway and its subsidiaries.

These latter included the Bedford & Bloomfield Railroad, the Orleans, West Baden & French Lick Springs Railway, the Lafayette & Monon Railway, and the Chicago & Indianapolis Terminal Company. These lines, though minor, help to form the present Monon System.

From the time of this reorganization, the Monon—so called from an Indian word meaning "running swiftly"—had comparatively easy going, until after World War I, that is. Then a slow business recession sent the Monon's revenues sliding downward. This plus the Government's efforts to help, almost brought corporate death to the Monon at last.

For, hoping to aid the ailing railroad industry, Congress passed the Act of 1920

which set up a consolidation plan for certain trunk lines. While the plan had some merit, it posed a real threat to the Monon's individuality. Under its terms, the Monon would become part of the Baltimore & Ohio –a move fought by the Southern Railway and the Louisville & Nashville, then principal owners of the Hoosier line. Finally, the Interstate Commerce Commission decided to let the CI&L continue as a separate entity.

After winning this battle for survival, the Monon enjoyed good revenues for nearly a decade. But the first World War had given new vigor to the already growing automobile industry, and the rise of bus and truck lines cut into the rail carrier's profits. The passenger automobile took a large share of the travel dollar, too. By 1929, the Monon was already feeling the tight pinch financially.

Every railroad suffered in the depression that followed the stock market collapse, but the Monon was hit harder than most. Demand for lumber and stone—two of the three basic commodities on which it depended for traffic—dwindled. Even coal revenues declined sharply. Industry, much of which was shut down, seemed to have little use either for building materials or coal.

During this period, the Monon deteriorated rapidly. No new equipment was bought. Repairs on the old were kept at a minimum. Many stations were closed, others became weather-beaten with neglect. Maintenance of bridges and track was all but halted. Thus it came as no surprise when the Monon, already on the verge of a physical breakdown, went into bankruptcy in 1933.

SOMETIMES receivership can prove valuable to a road. If the receivers recapitalize and revamp the entire financial structure and rebuild the physical plant at the same time, a carrier can emerge from bankruptcy in a sound competitive position. On the Monon, however, little attention was paid to rehabilitating the property.

After 13 years the Monon's financial

Developments come swiftly on the Monon, making year-old photographs obsolete. The No. 5, ***The Day Express***, at left, is now the streamlined ***Thoroughbred***, and trails no decorative smoke plume over the "lifeline of Indiana"

house was in sufficiently good order to permit its formal reorganization. When the new officers took over on May 1, 1946, they found the physical plant in dire straits. Employe morale was at a new low. Service was so bad that it often took five days to move a car from Chicago to Louisville. Bridges needed rebuilding, thousands of ties were long overdue for replacement. At the Lafayette shops, the machinery was obsolete and the housekeeping bad.

"The railroad had been 'economized' into starvation," President Barriger says. "Nevertheless, we were determined to make it the best example of what a modern railroad ought to be. This remains our goal."

What Barriger and his associates have done toward accomplishing this already has been recounted. Yet it is too early to evaluate the results of their program in terms of the future prosperity of the Monon. A look at some of the effects already discernible, however, leaves no doubt as to the immediate success of Barriger's plan.

Splendid new trains are wooing back the once-profitable passenger business. Freight traffic has continued on the upgrade, too, and much of this is new business attracted by the Monon's revamped services to shippers. Coal and stone remain the principal payloads originating on line, but at Chicago, Louisville, Lafayette, Mitchell and the other interchange points, more and more cars are coming to the Monon from off-line shippers who want prompt delivery and courteous treatment.

Today, more than half the Monon's traffic comes from its connections. This is reasonable to expect, since the railroad links the lake port of Chicago to the commerce of the Ohio River and does not serve a territory where a great volume of traffic is originated. But there was a time when much of this trans-Indiana traffic went by other lines because the Monon's services were third-rate. This is no longer true.

Although restoration of first-class service has been Barriger's prime consideration, he has made public relations his second. The president travels his line constantly asking passengers and shippers what they want. Every gripe and every suggestion is welcome. "I never cast aside a suggestion until I am convinced that it isn't practical and can't be made so," he says. Once any innovation has been placed in operation on the Monon, the public hears about it immediately through advertisements, news stories, and speeches by the president. This policy has made the Monon one of the best-known small roads in the country.

In the summer of 1947, the Monon staged a big celebration to announce its centennial year, Barriger borrowed a historic old locomotive from the Baltimore & Ohio, put some aged cars behind her, and set out to visit every town and village along the CI&L. He was accompanied by governors and other public figures who made speeches and shook hands at each stop. Crowds turned out everywhere to inspect the train, compare it with the Monon's sleek Diesels and new rolling stock, and to hear a friendly sales talk about "The Hoosier Line."

And while busy winning new friends for his railroad, Barriger has not neglected employe relations. He believes in working closely with his employes, proud of the fact that he can call many of the 2,500 by name. To keep them informed about company affairs, he recently launched *Rail and Tie*, a new employes' magazine. In its pages he discusses projects he is planning, talks frankly about finances, hands out praise for a job well done and makes suggestions for selling the Monon to its customers.

Employes have learned that hard work and ability pay off. When two road foremen of engines were needed, Barriger picked two locomotive engineers. A former switchman and a road trainman became trainmasters, a trainmaster became general supervisor of locomotive operations. Employes with 25 and 50 years of service get lapel pins and a congratulatory note from Barriger. This simple gesture

Courtesy Monon

Good housekeeping makes for good railroading. White cubicle, to right of well-ordered Lafayette machine shop, is first aid station

makes them feel that their years of service are appreciated.

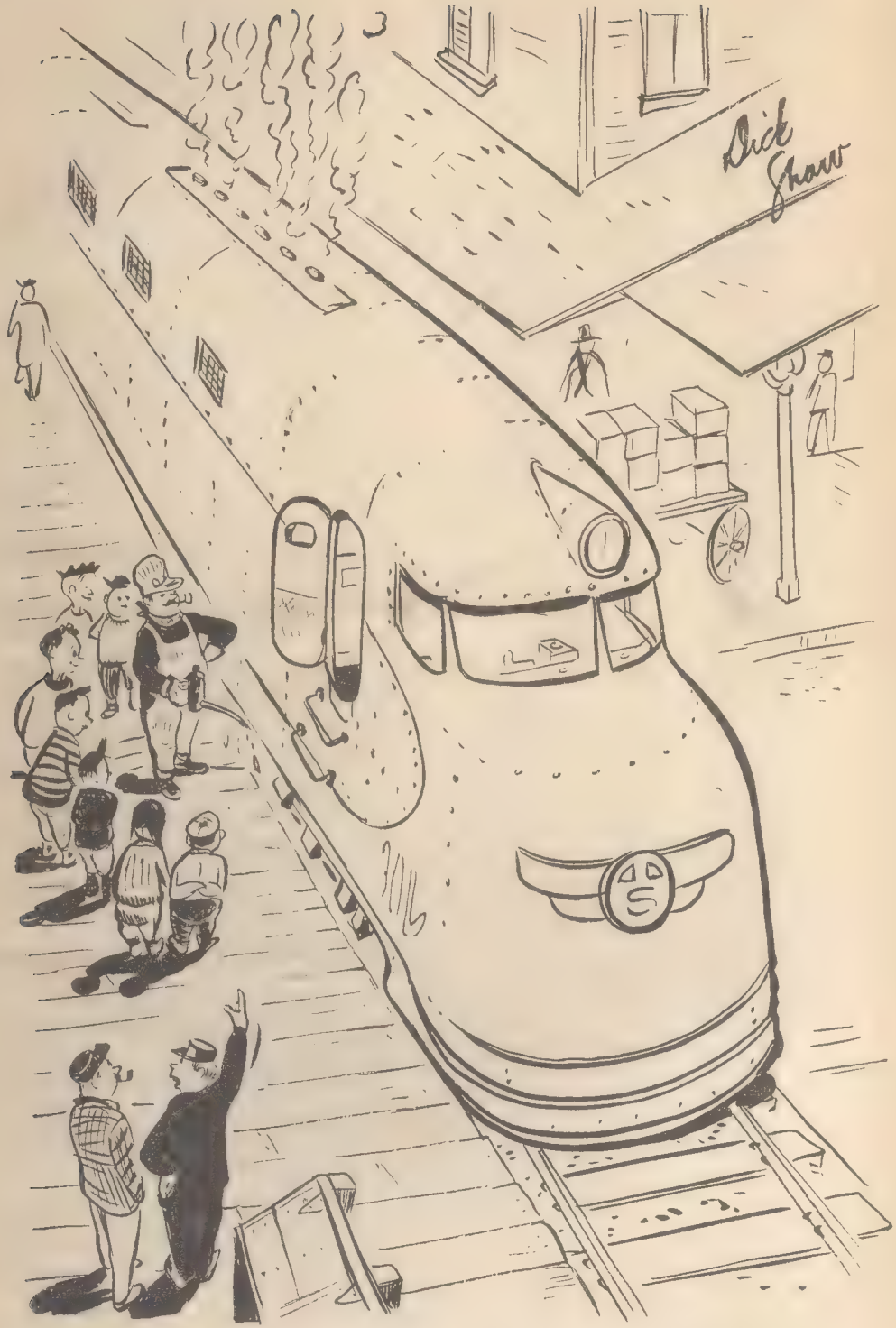
Today, the railroad is living up to its "Monon" nickname—it's "running swiftly." That term on the Monon means much more than highballing passenger trains at better than 60 miles an hour, too. However the most difficult job lies ahead: Barriger must prove in dollars and cents his good judgment in spending millions for new equipment and rehabilitation. Much of his program is still to be accomplished, and nobody is more aware than he that nation-wide economic conditions may force a curtailment in his plans.

Railroad executives, few of whom would trade jobs with him, are watching Barriger's progress with interest. If he succeeds in making a super-railroad of the Monon, then the whole face of American railroading may be changed. If he fails, he will be one of the most publicized failures in the history of the industry.

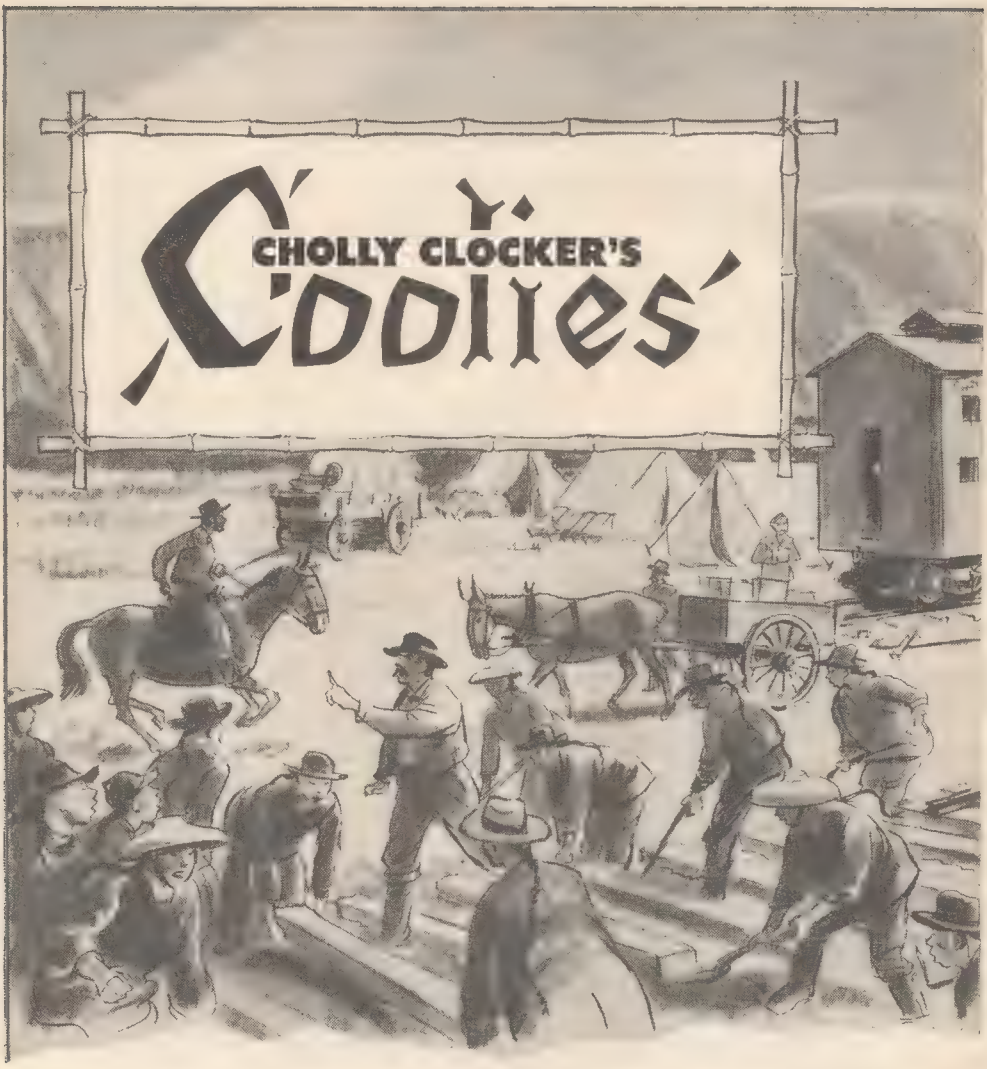
Failure, however, is a word Barriger and the people in Hoosierland have struck from their vocabulary. The youthful president will tell you frankly that the country will be hearing more and more about the Monon. Today, "Up and down the Monon, everything is fine!" Barriger, ever the practical planner, believes that the Monon's tomorrows will be even finer.

Did You Know That—

Grand Central Terminal, including its offices, stores and restaurants, has the highest assessed valuation of any single property in New York City's tax books. Rated at $36 million, of which $23 million is listed as land value, it tops the figure for the Empire State Building ($34½ million) and Pennsylvania Station ($28,840,000).



"Naw, there's nothing to oil on that baby; he's just showing off for the kids"



By ARTHUR B. ARMES

ONE AFTERNOON not so long ago, I made an attic discovery—a bundle of old *Sacramento Daily Union* newspapers dated 1861. Except for rust streaks and frayed edges, the sheets were white, in pristine condition. They had good rag paper back in those days; but not such good print. The small handset type and poorly inked letters made difficult reading. Then, as I turned over the papers, I saw the headline and, below, the beginning of a routine story:

On the waterfront two Chinamen were burnt to death in their wooden shack laundry . . .

I thought of the hordes of Chinese laborers who built the California Union Pacific and of Cholly Clocker—Charles Crocker—construction chief extra-ordinary.

Just across the page, another item chronicled the arrival of a Conestoga wagon emigrant train via the Overland Trail. A column captioned, BY PONY EXPRESS described the start of the battle

of Bull Run. One issue featured a railroad time table, the first ever published in California. In another there was an advertisement for gandy dancers. I thought to myself that the only men likely to answer such an ad would have been miners, broke guys who had shoved their buckskin leather pokes of gold dust over the green baize tables in back-room gambling joints. To get a grub stake to prospect and pan the creeks again, these red-shirted horny-hands would ship out to tamp ties for the Valley Railroad. Miners like these were the first to coin the expression "boomer" or "gold boomer."

Divided into gangs of about 30 men each, the Chinese worked under the direction of an American foreman

Here in Sacramento, the most famous of remaining pioneer railroad structures is an old brick building with gingerbread still adorning the red-wood window frames of its second storey. This building housed the hardware and grocery firm of Huntington & Hopkins in the year 1860. Six years before, in 1854, a young engineer named Theodore D. Judah set up offices in Sacramento to survey the valley pike. It was poor Judah (he died at 40 while crossing the Panama Isthmus) who communicated the belief in a transcontinental line to Huntington and Hopkins and converted the two small-town merchants into transportation multi-millionaires.

The idea of a railroad to span the continent was not new. Since 1849 politicians had seen such a line as a means to bind the West to the eastern states. Always, however, the Sierra Nevadas seemed to present an impassable barrier. Judah was the first man to realize that the mountainous terrain could be conquered. He'd surveyed and explored a feasible route, he claimed. But in 1860 newspaper publishers called his plans "chimerical." And San Francisco capitalists laughed in his face and termed his project "The Dutch Flat Swindle." Yet, two years later, the *Sacramento Daily Union* recorded that the Pacific Railroad Bill had received President Abraham Lincoln's signature and had become a law on July 1st.

The next mention of the project for a transcontinental line shows C. P. Huntington as the architect for the first Central Pacific Railroad station in Sacramento. The company's engineers had presented elaborate and costly plans for his approval. "Admirable for by and by," Huntington said, discarding the drawings, "but this will do much better for the present." He outlined with chalk on the iron fire door of his brick stove a straight up-and-down, rough-board affair, the cracks battened with strips, costing $150. It wasn't long before the shack became too small for its purpose and was converted to a paint shop.

The work for the first 40 miles was financed by local subscription. But when the project reached the foothill town of Auburn on January 7th, 1864, money from Government bonds became available. On that day this advertisement appeared in the *Sacramento Daily Union:*

PACIFIC RAILROAD

Wanted: 500 Laborers for constant permanent work. Also experienced foremen. Apply to J. H. Strowbridge, Superintendent on the work, near Auburn.

From Sacramento, Stockton and San Francisco, men came in response. The fragrant pine-tree foothills north of Clipper Gap, quiet for months, again rang to the sound of axes clearing the way ahead for a procession of dump carts between fill and cut. In two months, Crocker had laid rail to Illinoistown, 11 miles beyond Clipper Gap. By late spring, the Central Pacific was operating 56 miles of railroad. Passengers were carried at a flat rate of 10 cents a mile; freight was 15 cents per ton a mile. In June, gross earnings totaled a thousand dollars a day.

NOT MONEY, but labor was henceforth to be Crocker's headache. Thousands of men were shipped fare-free by labor agents from California towns, but few remained on the train, most of them skipped enroute. An average of only two out of five who arrived stayed on the job at all. Most of them "had it made" when they'd earned enough to pay stage fare to Virginia City.

A big heavy-set man in his late thirties, wearing a chin beard on his florid face and mounted on a huge sorrel mare, caught up with a 12-year-old boy who was trudging up the right-of-way toward Gold Run. "Where are you bound, Sonny?" he quizzed genially.

The boy squinted up at the horseman. "I've just walked from home, back in Dutch Flat. I want to help build this here railroad that is goin' to reach the Atlantic Ocean!"

Blue eyes twinkling, the man appraised the excited boy, then gave his orders: "Go up ahead to the first cut, and tell

Mike, the gang foreman, that Mr. Crocker sent you."

Such lads were scarce in the foothills and so were oldtimers. To get to the Pacific Coast, men had to come round the sands of peons from Sonora and other Mexican states never got beyond the discussion stages. Mexicans were considered too slow to be fitted for railroad work.

Crocker had seen the tireless Chinese

Culver Service

Shoveling out from under at Blue Canyon so this outfit train can get through with supplies

Horn on a wooden clipper ship, or over the Isthmus, or by wagon or on horseback across the hostile plains. The long journey was just too hard for old folks. Age in the railroad camps ranged mostly from 16 to 35. Anybody under 16 was usually back East with his mother; and anybody over 45 was presumed too decrepit to leave the East at all. Many others who would have made the westward trek were fighting the Civil War.

The labor shortage was so pressing that the Central Pacific petitioned the War Department to send out 5000 Rebel prisoners to be put to work under the guard of a few companies of Union soldiers. But the war ended and this pre-Nazi concentration camp scheme had to be dropped. A plan for importing under contract thou-

working from dawn to dark on placer mining claims supposedly worked out and abandoned by white miners. He made the first suggestion that Chinese be given a trial on the railroad to his superintendent, Strowbridge. The super was stubborn and conservative and dismissed the idea as preposterous. In his opinion, and that of everyone on the Pacific Coast, the Celestial was good at raising carrots and cabbages, at washing clothes or doing scullery work in the homes of prosperous citizens, but not at "white men's work." Why, the weight of the average adult Chinamen was probably less than 110 pounds, and to attempt to build a railroad over the Sierra with these rice-eating weaklings was rank bunk.

"Hadn't the ancestors of those weak-

lings built the Great Wall of China?" Crocker argued. "Didn't that earth wall construction job compare favorably with this railroad into Nevada Territory?"

But it was not until a strike of his white workers threatened that Strowbridge agreed to try the experiment. Labor agents began to search the Chinatowns of the state for every able-bodied man who could be tempted by the bait of steady work and a dollar a day. By the end of the year, most of the Oriental sections of California had been stripped of their occupants. Crocker sent orders for more coolies across the Pacific. Koo in Chinese means hire; lee means muscle. Koolie is used in China to refer to unskilled labor. The following spring, when the first boatload arrived from the Orient, a steady stream of yellow men poured for two hours from the ship to the wharf. Along the San Francisco *Embarcadero,* resentful waterfront loungers eyed the Oriental labor intrusion. They sneeringly remarked: "Bunch o' pigtails!"

Unperturbed by the hostile glances of the onlookers, the placid-faced coolies with shaven foreheads padded ashore in their thick-soled felt slippers, their lean frames in blue blouses moving in a peculiar swinging gait and their long braided queues of glossy black hair hanging down their backs. Some had only the patched clothes they stood up in. Others gripped a roll of matting. Here and there, a few carried their possessions in baskets and bundles, suspended from shoulder poles.

After the ship had disgorged nearly 2000 blue-coated Chinamen, labor agents, assisted by interpreters with cat-gut tones, directed and herded them like dumb cattle aboard river steamers for Sacramento. There, they entrained for points above Auburn.

A reporter at the dock that day wrote: "They were a clear-eyed lot of young men. Opium costs money. They left the soil of their native land poverty-stricken and on the trip over had to forego the luxury of the poppy."

Speaking of the drug, the writer has been in contact with Chinese who used it. In the fall of 1904, at Vancouver, B.C., I signed on as a deck hand aboard a freighter. On the way up the coast, we dropped sling loads of mixed merchandise at about 30 different jetties. Fort Simpson, I believe, was the last port. On the return trip, we stopped at a large cannery to load up with cases of canned salmon and a crowd of gesticulating Chinamen, returning to Vancouver after the season's salmon run, dog-trotted aboard.

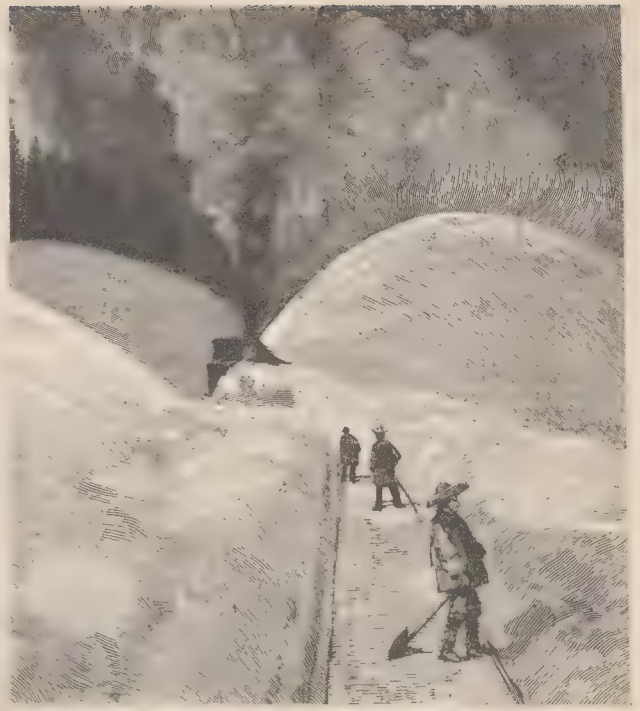
As soon as the steamer left the cannery port, grass mats and blankets were spread out on all available 'tween-deck space and opium smoking paraphernalia produced. Soon, the whole crowd was rolling the gummy mixture into pills for roasting. Then, one by one, they took several deep drags and passed into the land of dreams. The pipe-lighting lamps burnt low, finally flickered out. For three days they kept it up, waking only to repeat the performance. The deckhands went around dizzy with the fumes, and the smell even penetrated the fo'c'sle at night.

Crocker's coolies didn't go in for much of this, I'm told by the grandson of a construction foreman along the CP's Placerville section. The old gentleman's favorite subject for reminiscence, the young fellow says, was the pig-tailed Chinese, Crocker's Pets, as they were called by the Irish. He claims that each Chinaman laid one tie an hour and worked a 12-hour day; and you can't do much opium-smoking on such a schedule.

DIVIDED into gangs of about 30 men each, the Chinese worked under the direction of an American foreman. One member in each gang was selected to receive all the wages and buy all the provisions. They usually paid an American clerk—one dollar a month each was the usual sum—to see that they got all they earned and that each was charged no more than his rightful share of the living expenses. After deducting his board bill, a Chinaman could save about $20 a month. Amusements, except gambling, were scarce with them. They spent their Sundays playing fan-tan or washing and

mending and in shrill-toned quarreling.

Almost the only American article of dress they adopted was the leather top boots worn by all miners. After a Chinaman had put in a little time at the railroad camp, his soft-soled footwear was shredded and worn-out on the sharp rock roadbed. His first purchase would be a pair of heavy boots. The type carried at the commissary generally came in one size only. But the coolie wanted large boots for his money anyway, so that was all right. Clumping up and down the right-of-way in those jack boots meant nothing but torture to the unaccustomed feet of the Chinamen at first. But each coolie of them was a determined individual and wore his boots until he became used to them.



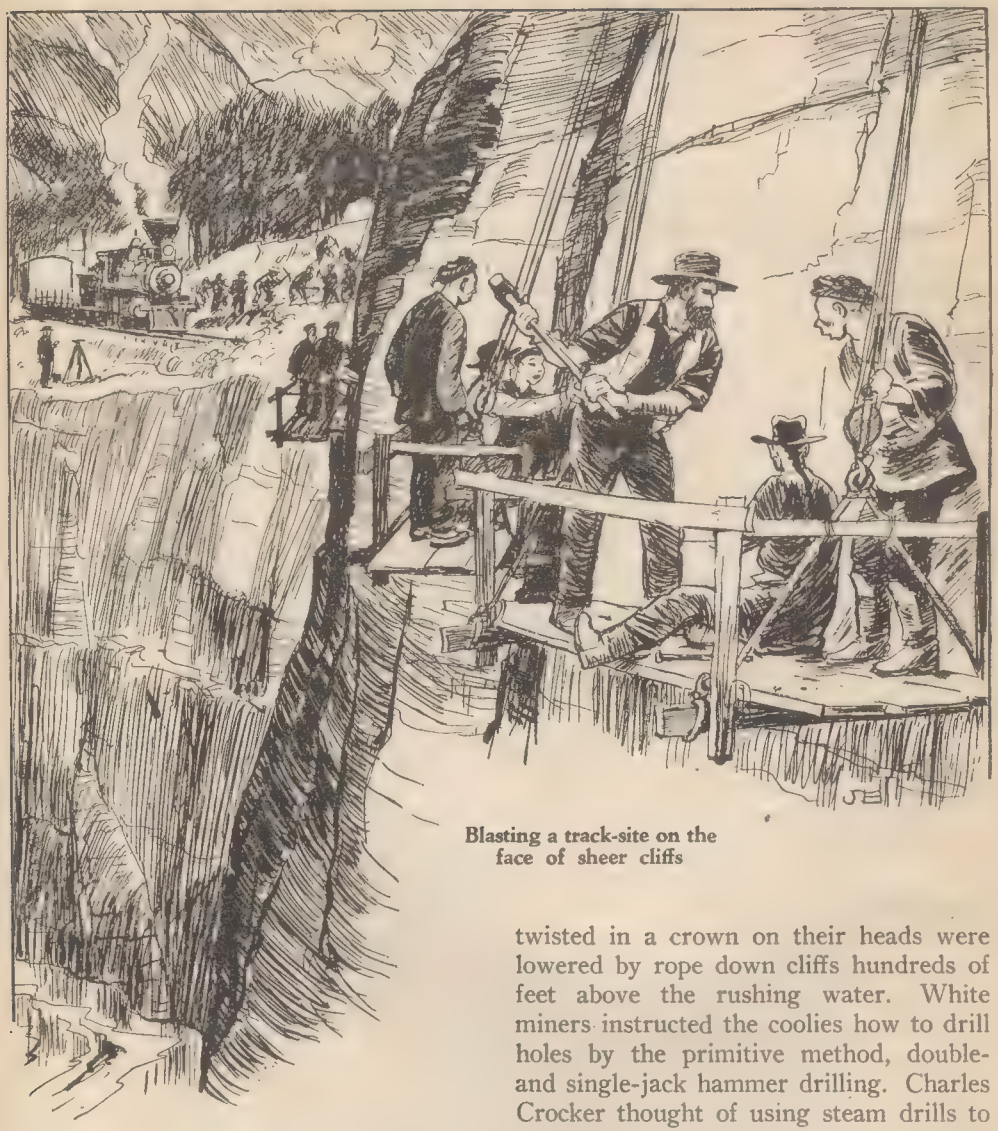
Culver Service

Some of Clocker's coolies about to be buried by a rotary, thanks to oldtime artist's ignorance of snow-clearing tactics

It is interesting to note how much more nearly the diet of the Chinese conformed to modern ideas than did the food of the white workers. The company handled the importation of Chinese supplies, and their lists include dried oysters, dried cuttlefish, sweet rice crackers, dried bamboo sprouts, salted cabbage, sugar, four kinds of dried fruit, five kinds of dessicated vegetables, vermicelli, dried seaweed, Chinese bacon, dried abalone, peanut oil, dried mushrooms, tea, rice, pork and poultry.

The white laborers ate only beef, beans, bread and butter and potatoes, washed down with coffee. Between meals, they relieved their thirst with water which frequently, in spite of all precautions, was a source of sickness. The contaminated waters of the Yangtze-Kiang River had taught the Chinaman to drink no water that has not been boiled. The taste of tea is preferable to that of plain water, and 30- and 40-gallon whiskey barrels full of tea stood on tap beside the grade. Several times a day, a Chinese mess attendant would bring fresh tea to fill the barrel. These reinforcements were carried in powder kegs suspended across the shoulders on each end of a bamboo pole.

Discussing the importation of Chinese laborers, the *Sacramento Daily Union* had this to say: "Other nationalities not being available in sufficient numbers, the company resorted to the employment of the Chinese." In his testimony before the Pacific Railway Commission, Charles Crocker told exactly how it came about. "At first, I recollect, that four or five Irishmen on payday got to talking together and I told Mr. Strowbridge there was some little trouble ahead from that. When I saw this trouble impending, a committee came to us to ask an increase in wages. I told Mr. Strowbridge to go over to Auburn and get some Chinamen and put them to work. The result was, the Irishmen begged us not to have any more Chinamen come, and they resumed work. It was four or five months after this before I could get Mr. Strowbridge to take



Blasting a track-site on the face of sheer cliffs

Chinamen. Finally, he took 50 and a while after he took 50 more. They did so well that he took 50 more and finally all we could use until at one time I think we had 10 or 12,000. Commencing at Newcastle, we hired all the white men we could get, but just above Auburn we put the first Chinaman to work . . ."

The route planned through the mountain fastness called for many earth and rock fills. When a rock cut had to be blasted out of the mountain side, bareheaded Chinamen with their queues twisted in a crown on their heads were lowered by rope down cliffs hundreds of feet above the rushing water. White miners instructed the coolies how to drill holes by the primitive method, double- and single-jack hammer drilling. Charles Crocker thought of using steam drills to speed up the work, but the cost of buying the heavy boiler equipment and transporting it with white operators around the Horn was prohibitive. Getting it up the steep mountain slopes was another deterring factor.

The coolies were trained to fill and tamp the black powder holes. Sing-songing to each other in Cantonese dialect, the muckers filled wheelbarrows, one-horse, two-wheeled dump carts or log stone-boats. They went back and forth in a steady stream from the earth fill to the grade dump. It was strictly a job of human

brawn and gunpowder. No horse-drawn scrapers or other dirt-moving machinery was used.

Hauling and placing ties took time, especially in some sections, and when the stock pile was distant wagon-roads for the mule skinners hauling supplies up to spaced stretches had to be cut and cleared through the pine and fir forest that paralleled the right-of-way. All ties laid in the Sierras in the 'sixties were redwood and the stately trees with high fluted columns and interlaced branches through which the sunlight streams in lines, casting disks of silver upon the dark trunk and the ochre-coloured ground teaming with ants, were axed down ruthlessly. These trees are now preserved by law. A redwood forest inside is something like a church.

CROCKER boasted that his Chinese were steady workers, never made any strike threats and formed the mightiest army ever enlisted in the work of civilization.

According to present-day standards, one tie each hour per coolie seems slow. But what the yellow laborer lacked in speed and equipment was made up for by his numbers. In the heyday of transcontinental construction, indentured Orientals were coming over in boatlands. At one time there were 12,000 pigtailed coolies working on a 40-mile stretch of mountain grades.

To most whites, the relationship between Charles Crocker and his "Chinks" was a mystery. He was a huge man weighing in the neighborhood of 220 pounds—a hard-boiled, chin-whiskered man of action, a driving spirit that found fault where none existed—seemingly the last type to get on well with the placid-faced Oriental. But Crocker was a man of his word. When he made a verbal contract for camp beef at 10 cents a pound, he paid the price, despite fluctuations.

The Chinese understood his honesty and trusted him. Writers of the period claimed that Crocker had a talent for highballing his Chinese gangs along at top speed. Their interpreters complained: "Mista Clocker wantee Chinee boy all time hulley up."

Toiling like a stream of ants along the cuts and fills of the winding right-of-way through the defiles of the Sierra, it took the coolies three years to reach the mountain top. There the Summit tunnel, requiring a quarter-mile bore, was started three ways, at both ends and at a vertical shaft sunk down from the snow-crested heights.

The ridged backbone of the mountain was of hard granite. Black powder could not disintegrate it, the charge blew harmlessly out the drill holes. The new invention, nitroglycerin, was required to conquer this stubborn rock. Teams hauled up the sulphuric acid, glycerin and other ingredients and the nitro was manufactured on the spot.

White men inserted it, after the coolies had drilled a round of holes in the tunnel face; then, in the noon hour or at the close of the day's operations, they fired the fuse. But first they yelled, "Fire in th' head-in'!" Adding as a warning to any stragglers: "An' she's got a short fuse!"

The Chinese understood that warning.

In a liquid state the nitro was unpredictable. On resuming work after a round of holes had been blasted, it was impossible for the drillers to tell from the shattered heading if any of the holes had missed fire. Consequently, the first coolie to hit with his hammer the spilled liquid was blown away in a red mist. The remaining ones shrugged and worked stolidly on. No, their interpreters said, they had no grudge against the nitro; it broke the rock and made a more satisfying noise then the staccato crack of firecrackers. They reasoned that plenty of *Bang! Bang!* was necessary to drive evil spirits away. Not that there were many on the winding route of the grade through the mountains. Imps follow a straight line and so could not come here.

An Oriental will imitate exactly the actions of an instructor. They soon learned that a round of holes required fuses of varying length. They became nitro experts. Nevertheless, Crocker didn't like

the nitro and wanted the damned stuff buried.

In the shadowy, flickering light of tallow candles and oil lamps, the young, stoical workers pecked away at the tunnel's flinty granite. It turned the edges of their drills. At each end of the bore and at the vertical shaft, they worked around the clock, moving forward at the rate of eight inches a day. It was a solid year before they holed through in 1867.

Summit was the last major tunnel to be driven by hand; within a year or two, power drills were in use the world over.

Tracklaying proceeded eastward across the level plains at a fast clip, until only a 25-mile gap separated the Central and the Union Pacific. There Crocker's coolies, assisted by eight selected Irish tracklayers, laid over 10 miles of track in a single day.

The story goes that it happened like this:

The Union Pacific boasted, "We've broken all records, we've laid six miles of iron in one day. Try 'n match that!"

Crockers Chinese Pets responded with seven miles.

The UP met this with seven and one-half miles.

"The Central Pacific will build ten miles of track in one day," declared Crocker with an eye on publicity and a spectacular finish for his road.

From New York, the vice president of the UP wired, "Bet ten thousand dollars that it cannot be done."

Crocker waited until the following night because the line was kept open in the daytime for train traffic and for scouts to forward warning of any unsuspected Indian raids; then telegraphed: "Your bet covered."

For several days then, Crocker and Strowbridge marshalled their forces and laid their plans. Ties were hauled ahead by two-horse teams and distributed on and adjacent to the already graded roadbed. Rails and track material were moved up from rear yards and held in trains ready to advance.

More than 4000 men and hundreds of horses and wagons were already on the spot. Crocker had reserved the right to pick his day, and it was because of this that the great tracklaying contest took place near Promotory, Utah, the meeting place set by the Government Railroad Commission. April 27, 1869, was the day first selected, but a derailed switch engine compelled a postponement of 24 hours.

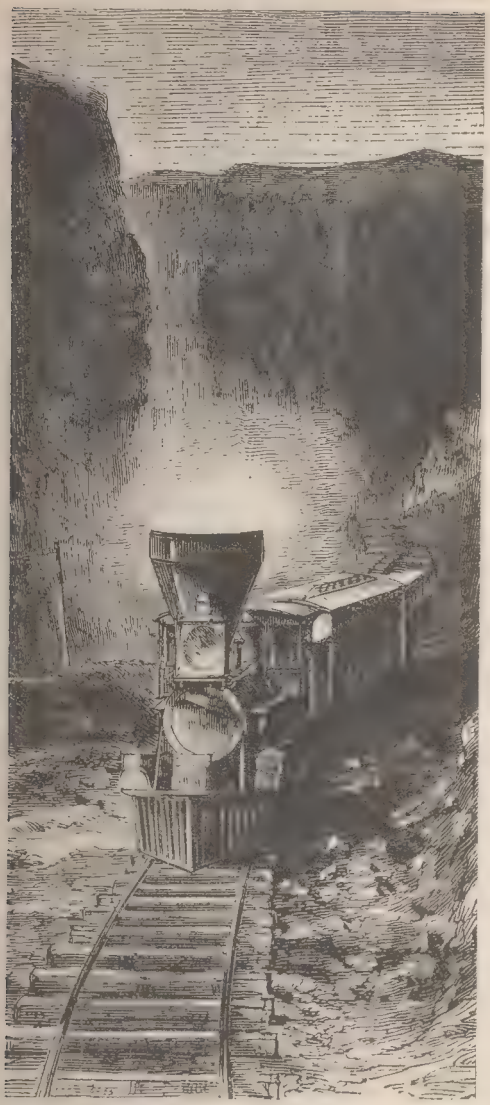
The sun was just creeping above the peaks of the Wasatch range when the hogger of a 20-ton locomotive gave the whistle blast. The drivers turned, the bell-shaped engine stack puffed out smoke with a pungent wood-burning odor and the link-and-pin couplings rattled and stiffened as the string of 16 heavily loaded flatcars jerked into motion and pushed up to the front. As soon as the train was spotted at the railhead, Chinamen climbed on top and threw off bundles of fishplates, kegs of bolts and spikes. Others with upward swings of their hammers punched out the side stakes of the right and left alternate cars.

For eight minutes then the desert air resounded with the noisy metallic clatter and clang of dropping iron from the train of 16 flats, all being unloaded at the same time. There was now on the ground enough material for two miles of track. Unloading time: eight minutes.

Immediately after the train pulled off for a siding and while the clouds of alkali-impregnated dust were still settling, the white straw bosses silently gestured for the small iron push cars to be placed on the track.

Sixteen rails were loaded onto each car. Coolies with picks broke open kegs of spikes and poured them over the rails. Two Chinamen with buckets filled from a bolt keg stood waiting for the first joint to be connected. Two other coolies cut the wired fastenings of a bundle of fishplates and then stood by. The first car of rails was pushed up the few feet to the railhead, where it was blocked.

NOW they were all set. The picked crew of brawny Irish rail handlers moved up, four men on each side of the



Central Pacific's train snaking its way through Ten-Mile Canyon, Nev., in 1869

car. Two Irishmen gripped their tongs on the forward end of the rail. Two Chinamen simultaneously slipped the rail so it rested on well-oiled rollers on the side of the car. The two forward men paced ahead over the ties. Before the rail reached the end of the rollers, the Irishmen had grasped the smoothly gliding iron with their hands and set it in place, where it was instantly bolted. Meanwhile a gage man trued it up. Four mauls went *Bang! Bang! Bang!* as they drove in the spikes. A Chinaman removed the wood chock. The empty car upended off the track. A new load moved up and the procedure was repeated, endlessly, it seemed.

As the distance from the material dump increased, a horse with rider was attached to the car as soon as it was loaded with rails, kegs of spikes, bolts and bundles of fishplates.

The crew then hopped on top, the horse went off on a jump and the car sped *clickety-clack* over the rail points. One side of the grade path was kept clear for the horse racing ahead. On a down grade, the horse was detached and the car sent flying ahead with one of the crew acting as brakeman and the horse running alongside. When a level was reached, a young, agile Chinaman jumped off and again hooked on the tow rope.

At the same time, empties were returning at a slower rate along the single track. Whenever a full car came close, the crew of the empty scrambled off and tilted their car off the rails while the loaded one went past without slackening speed. There was no halt in the continuous stream of materials to the front. The last car had a distance of two miles to go as against only a few feet for the first one.

The two ribbons of iron went forward at the rate of almost a mile an hour. A correspondent for the *Alta*, a San Francisco newspaper, wrote: "I timed the movement and found the speed to be as follows: The first time 240 feet of rail was laid in one minute and 15 seconds. This is about as fast as a leisurely walk and as fast as the early-day ox team used to travel over the plains."

The rail handlers were only eight of several hundred men at the front. Everyone was an important cog in the the smooth-working machinery. The men ahead butted the tie ends to a rope line measured from the right-of-way stakes set out by the surveyors. About half the regulation number of ties were placed to insure having enough for the ten miles. The coolies made fast motions with their

wrenches, tightening the bolts. Another group split the skies as they drove home the started spikes, spiking firm the whole length of the rail in three licks of the heavy maul.

The surfacing gang levered up tie ends, working enough dirt underneath to hold them firm and level. On the opposite side, away from the speeding horse path, shovel gangs filled centers with ballast. Further back, a lining-bar gang took out the slight kinks. The boss to the rear sighted the line and by hand motions north and south silently directed the Chinese track straighteners.

The minute the last pushcar cleared up the last of the material on the dump, the waiting hogger got the highball to proceed ahead with more material. No time was taken by the tracklayers to bed rail joints; consequently, the iron was improperly bridged between ties in many places. But the 20-ton woodburning locomotive chugged cautiously up. And while the Chinamen threw off another 16 carloads the Irish rail handlers took an eight-minute breather.

Finally, behind the clear main, came the shovel gangs. Lying stretched out on the roadbed, sighting the alignment of the rails, the boss raised and lowered his hand for the direction of the jackmen. Swarms of Chinese gandy dancers followed, tamping the ties solid.

The *Alta* correspondent went on: "The scene was an animated one. From the first pioneer tie spacer up ahead to the last gandy dancer away back, for about two miles, there was a line of men advancing a mile an hour. Cars with their load of humans *(sic)* dashed up and down the newly-laid track; foremen on horse back were galloping back and forth. Keeping pace with the track layers were the telegraph construction party. Alongside the moving force, teams were hauling tool and water wagons.

"The pig-tailed Chinese with pails dangling from baying poles balanced over their shoulders were moving among the men with water and tea. In the rear of all this was a string of boarding cars—a long line of wood horses built on flatcars, looking like a small town of shacks stretched out.

"Five train-loads of material were used that day. When one section was completed, the next train moved up as far as possible on the new track and material for another two miles was rapidly unloaded."

When a halt was called for the mid-day meal, six miles of mainstem had been laid and the men were confident that they would reach their goal. A number of Union Pacific brass hats had lunch with Stanford, Crocker and other important Central Pacific men. "Victory" was the name given the spot where lunch was taken. The place is now a station called Rozel.

After lunch the work went on but not so rapidly. The ascending grade of the west slope of Promotory Mountain was more difficult than the section covered during the morning and there were many curves. Considerable time was lost in bending the 56-pound iron rails.

Two ties were placed on the track about 25 feet apart. The 32-foot rail was laid on its side across the two ties. Six or eight men stood on the rail, while another man swung lustily with his hammer, the weight of the men standing on the rail adding the necessary spring to bend it. To make room for the man with the hammer, one of the standees would step off and then step on again.

As soon as the powerful hammerman had gone down its entire length, the rail would be stood on end and by sighting along the rail or measuring with a string, the hammerman would know just where to give the rail a few more blows to make the proper balanced curve.

When the forward march was halted at seven o'clock, 10 miles and 56 feet of new track had been added to the Central Pacific. Boss Campbell swung on to the locomotive and made the round trip on the new track in 40 minutes, just to prove that the work had been well done.

The job involved bringing up and putting into position 25,800 ties, 3520 rails

New York Public Library

Rounding Cape Horn along the canyon of the American River on tracks laid by Crocker's "mightiest army ever enlisted in the work of civilization"

averaging 56 pounds each in weight, 55,000 spikes, 7040 poles, 14,980 bolts—or a total of 4,362,00 pounds of iron. Each of the rail handlers lifted 125 tons during the day in addition to carrying the weight of their heavy rail tongs. They walked many feet more than 10 miles backward and forward. It was a wonderful exhibition of skill and strength, and seems even more wonderful now that machines and not men do such work.

The notations in a time-book kept by Foreman George Coley of the Central Pacific, and now in the files of the Espee, gave the mileage stations between which the track was laid and the names of the eight rail handlers, and also records the fact that each received four days' pay for that day's work.

Their record-breaking performance left the Central Pacific just three and one-half miles from the meeting place. The Union Pacific had six miles to build. This stretch was laid the following day, with two rail lengths left open until arrangements could be completed for the formal ceremony of driving the last spike.

A FEW days later, as has been told time and again, the Central Pacific and the Union Pacific work-train locomotives touched cowcatchers at Promotory. An on-the-spot chronicler recorded an amusing incident which involved the Chinese track hands. As they were lifting the last rail into place someone shouted to the photographer, "Now's the time—shoot!"

Knowing little English but thoroughly acquainted with "Shoot!" the startled coolies dropped the iron and scampered for cover.

The first transcontinental was a hand-made road. It had no assistance from steam shovels, steam derricks or other modern machinery. The casualties result-

ing from this rough-and-ready building were always a subject for discussion among oldtime boomer track-stiffs. In every extra-gang bunkcar, there would always be a garrulous gandy dancer who had heard a story, generally from an aged inmate of a County pogey, a former Union Pacific track layer or an ex-Confederate soldier in General Casement's peace-time army.

The old shovel stiff would repeat the hearsay, with additions from his own imagination: "When those UP railroaders got knocked off by Injuns or croaked by accident or sickness, th' stiffs was buried deep in the grade t' hide 'em away from coyotes, Injuns or other varmints." The speaker would pause for a moment and then, argumentatively: "Probably some of yuh fellers don't know, but fer each mile o' that mainstem there's three stiffs buried!"

The number always varied with the narrator.

There were many who did meet death in order that a pair of iron rails might be connected. But the grade burial yarn seems to be just that—a yarn. On the west end of the Espee are too long strips of polished steel. On old Central Pacific right-of-ways, bypassed with new cutoffs, recent scraping and leveling by bulldozers has uncovered broken china rice bowls and other Oriental camp debris; but no human remains. All whole deceased Chinese were interred in established cemeteries.

Almost a decade later their bones were disinterred, polished and shipped back to the land of their ancestors by the Hip Song Tong, an organization which corresponds in its activities to a labor union. The story was different for those who were blown to pieces. According to Chinese logic, these unfortunates were out of luck. For reincarnation a whole anatomy is necessary.

Unlike their Chinese-American descendants, many of whom have a college education, Crocker's coolies were illiterate peasants.

The emigrated almost exclusively from the districts in Kwang-Tung Province of which Canton is the capital. They spoke the Cantonese dialect, understood only by themselves. They were inveterate gamblers, but strictly among themselves. No tin-horn white man could get in on their game. On pay-day they first settled their debts, then started up fan-tan games.

Fan-tan is a simple odd-and-even game of chance. The gamester upends a bowl containing a small pile of buttons and slides them to a marked square in the table center. After all bets are placed, he counts them off four at a time with a bamboo sliver. The last 1-2-3-4 count decides the winner. Lucky gamblers who had cleaned the camp of cash departed back to the Orient, to live the life of a Mandarin; that is, provided they were not waylaid, murdered and robbed enroute to the port of embarkation.

Fact railroad writers have it that Crocker was a great organizer, one of the most marvelous drivers of men the country ever saw.

However, the scribes have failed to take into account the gambling proclivities of his coolies or the effect on them of being broke, far from home and unable to speak English.

Crocker's aim was not unlike that of the lucky Chinese who went back home to live in luxury. He built a swell home in San Francisco on Nob Hill, a snooty residential district, as the name implies, housing Big Nobs or the boys in the dough. Crocker tried to buy the lot adjoining his house and, failing, erected a 30-foot spite fence reaching to the roof of his neighbor's dwelling and completely cutting off his view. Newspaper publicity about that high fence did not faze Crocker. He was in the money and he wanted the world to know it.

But one thing Crocker never did was brag about what a smart guy he was. Although he'd overseen the construction of thousands of miles of railroad, he freely admitted, "I couldn't have measured a cut to save my life."

In later years, he was to make a more surprising admission. Showing a friend through the picture gallery of his red-wood mansion, he remarked, "I don't know much about art." Among the millionaires of the 'eighties frankness could go no further.

In his later years Crocker, like Stanford, was quite willing to supply newspaper advice to those who wished to become multi-millionaires. But whereas Stanford sprinkled such interviews with references to the solid virtues, Crocker's approach to the subject was more realistic: "One man works hard all his life and ends up a pauper. Another man makes twenty million dollars." He concluded with a smile, "Luck, of course, has a lot to do with it."

On the San Francisco sand lot known as the "Wailing Wall", where free-speech orators presently air their grievances, old-time Anti-Orientalists used bitterly to denounce Crocker for his use of cheap Chinese labor. The principal exclusionist of that time, Dennis Kearney, remarked: "The time will come when Mr. Crocker will be spanked with boards torn down from his spite fence."

To his critics Crocker replied, "I had to get Chinamen to get the road completed on time, while the money grant was available." He told the truth. Owing to the man-power drain of the Civil War and the mining boom in Nevada, there was no possibility of attracting men on the scene to the railroad. As for those other immigrants who claim the credit for building our first transcontinental, it was completely impossible to ship Irishmen in sufficient number by clipper ship around the Horn.

However, the Irish should be allowed the credit for starting the transcontinental in both directions; assisted, of course, by a Flag-of-all-Nations crowd, so to speak. Sydney Ducks, whose clipped right ears designated them as ex-convicts from the Australian penal colonies; deserting sailors from wind-jammers; forty-niners who came west via the Overland Trail or through the fever-stricken jungle route of the Panama Republice; slow Scandinavians and Germans; plain Americans—they all helped build the first transcontinental. But except for the Irish, none attracted as much attention as "Cholly Clocker's Coolies."

Operator Dulin Reports a Wreck

Your Number Two her boiler blew,
We've picked her up in baskets—
So send another engine down
And send a couple caskets.

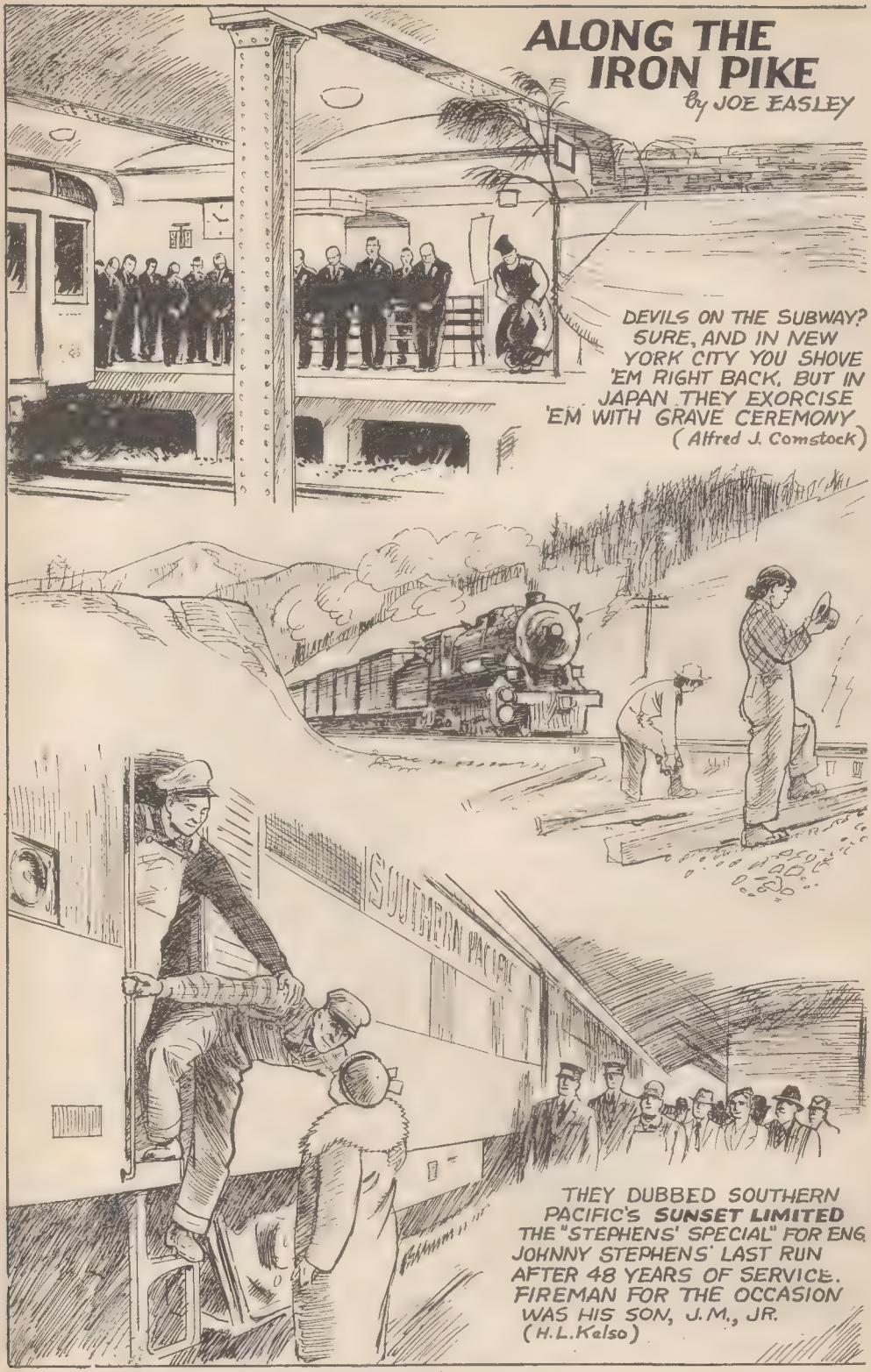
For when she blew, her engine crew
Took off for climate hotter;
They musta watched the gage for steam
But plumb forgot the water.

Wake up, you lug, and heed my bug,
Its chatter's dire and dirty.
Your pike's tied up—send out the hook:
This is Dulin signin' THIRTY.

H. L. Kelso

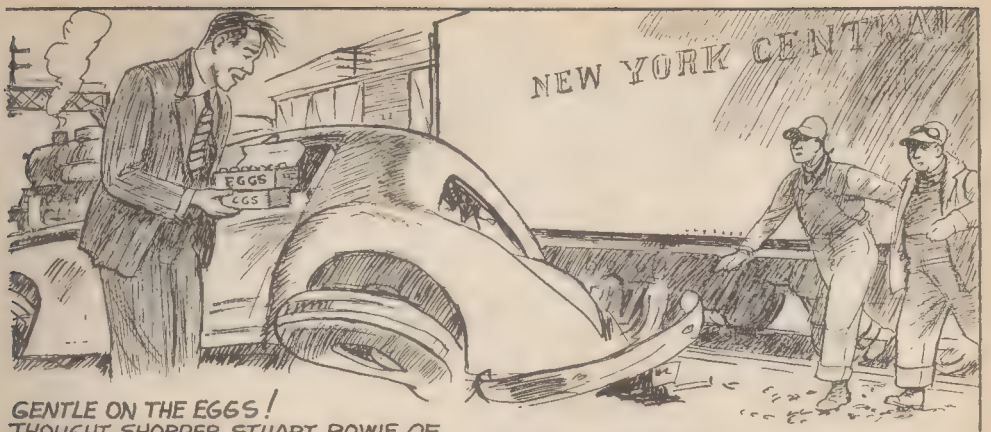
ALONG THE IRON PIKE

By JOE EASLEY

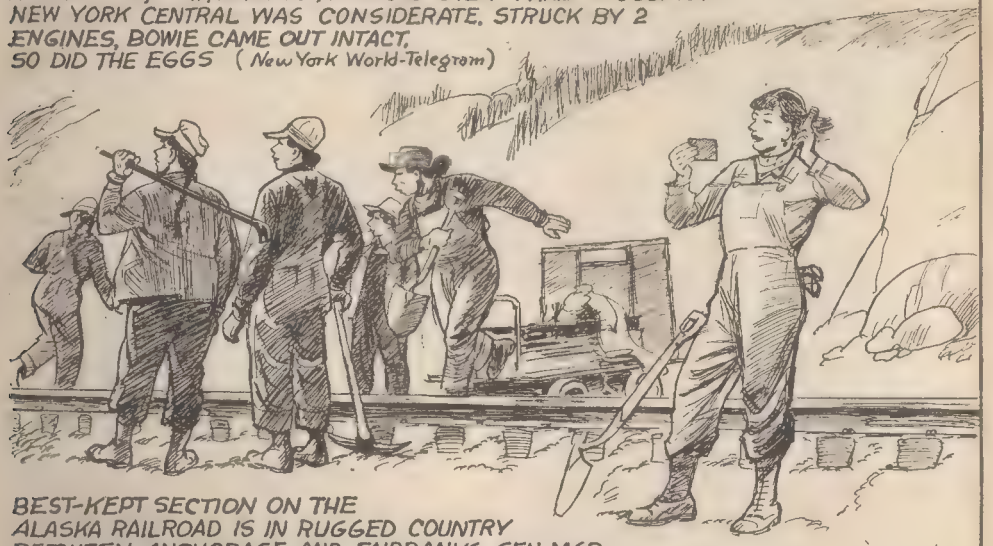


DEVILS ON THE SUBWAY? SURE, AND IN NEW YORK CITY YOU SHOVE 'EM RIGHT BACK, BUT IN JAPAN THEY EXORCISE 'EM WITH GRAVE CEREMONY (Alfred J. Comstock)

THEY DUBBED SOUTHERN PACIFIC'S **SUNSET LIMITED** THE "STEPHENS' SPECIAL" FOR ENG. JOHNNY STEPHENS' LAST RUN AFTER 48 YEARS OF SERVICE. FIREMAN FOR THE OCCASION WAS HIS SON, J.M., JR. (H.L. Kelso)



GENTLE ON THE EGGS!
THOUGHT SHOPPER STUART BOWIE OF ROCHESTER, N.Y., EASING HIS AUTO OVER A RAIL CROSSING. NEW YORK CENTRAL WAS CONSIDERATE. STRUCK BY 2 ENGINES, BOWIE CAME OUT INTACT. SO DID THE EGGS (New York World-Telegram)



BEST-KEPT SECTION ON THE ALASKA RAILROAD IS IN RUGGED COUNTRY BETWEEN ANCHORAGE AND FAIRBANKS, GEN. MGR. J. P. JOHNSON TOLD SENATE INTERIOR COMMITTEE. "THE GANG IS INDIAN" HE EXPLAINED, "AND ALL LADIES TOO!" (New York Times)

WHEN NEW HAVEN CREWS GAVE A PARTY FOR THEIR FAVORITE PASSENGER, BLIND COMMUTER JENNIE KONDRASKY, THEY REMEMBERED TO HAVE THE FROSTED SUGAR GREETING ON JENNIE'S BIRTHDAY CAKE PRINTED IN BRAILLE SO SHE COULD READ IT (Along the Line)

Light of the Lantern

Key shows clearly in this photo. The union of crosshead and piston rod must withstand alternate pressure and pull of 40 or more tons

PISTON ROD PARTING

IN CONTRAST to the loving care which is bestowed upon Diesel locomotives in 54 fully equipped and modern repair shops now being operated by 39 American railroads, steam maintenance work in the average roundhouse or backshop is performed with only the crudest equipment and plant methods. What is more, the so-called "modern" reciprocating steam locomotive, though a vastly finer machine than those produced a decade ago, is still designed with tolerances running to the fraction of an inch, rather than the thousandth. The belief that heavy machinery can be operated with parts loose and pounding has become thoroughly ingrained, and not without encouragement from the locomotives themselves. No other mechanism can quite duplicate their ability to accept abuse and to operate with a minimum of attention.

As we've just said, the typical enginehouse has few tools fashioned for special purposes. Standard wrenches are used, along with persuasive blows from a heavy sledge. The special jigs employed in railroad shops have generally been designed by the foreman in charge—or by his predecessors. If he is to put in a set of springs he may use a standard jack, but the bars and pullers were fashioned by his own mechanics. If he removes a cylinder head or a follower it is done by bull strength, or with a simple rigging that would make a designer of modern tools blush for shame. The supply house stamp is conspicuously missing, save on a very few machines used for specialized purposes.

An exception is the ingenious mechanism used to part pistons—until recently one of the most troublesome operations encountered in the overhauling of locomotives. Before describing it, let's see what this operation involves and we will have a better notion of its worth.

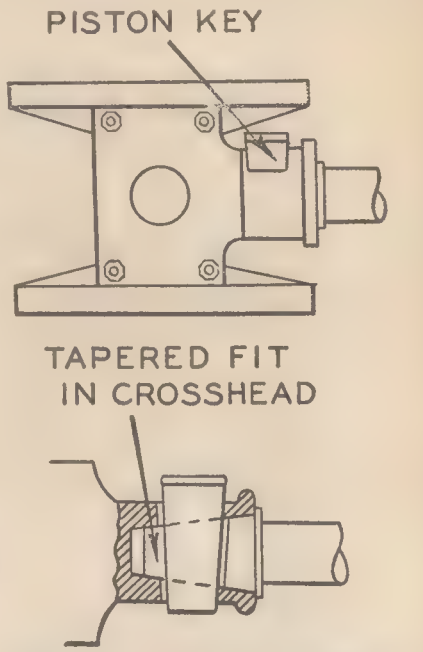
Whether the crosshead is of the alligator, Laird or multi-ledge type, the established method of securing the piston to it is by means of a tapered key. This construction has proven safe and dependable and is used by most railroads on the majority of their power.

A glance at the drawing of the tapered key method of assembly shows its simplicity. The end of the piston rod is simply turned to a taper and the bore in the crosshead is machined at the same angle. Slots are cut in both and when the two are lined up a heavy triangular-shaped key is driven into them with an ordinary sledge.

In resorting to the tapered key and piston end, designers have made use of the ability of the wedge to convert minor pressures into the greater ones needed to withstand the stresses on the union. Bear in mind that the average locomotive, with a 24-inch diameter cylinder and carrying 200 pounds' pressure, exerts a total thrust or pull on the rod of about 45 tons. At one end of the stroke the drive is into the crosshead fit, while at the other the key is in shear. Such terrific and opposed applications of force, occurring many times each minute, demand stout design. So stout that when the metals have been held together for any length of time they develop an affinity for one another and become extremely hard to separate, going from one shopping to another without attention. It is the wear or failure of other parts that requires the parting of the piston rod.

Pistons, for example, have packings that break or wear, demanding renewal at certain mileages. Or a shot of water may do extensive damage when it drives the piston rod deep into the fit. Clearances are then destroyed and new parts must be applied. Occasionally, too, a piston rod gets out of round and must be parted from the crosshead. Here the trouble begins.

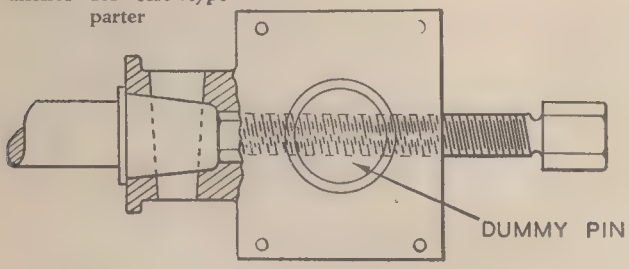
Officials call the operation "piston parting"; to the average shopman it is "busting the piston." But whatever the term, the job was tackled with fingers crossed until very recently. Foremen knew that under particularly favorable circumstances the work could be accomplished in 15 minutes, again they had seen it take an entire day. Now and then valuable motive power was tied up when it became necessary to resort to acetylene to cut the rod away. Small wonder that this task was entrusted to the best mechanics.



Key and tapered fit both make use of the principle of the wedge

Originally the method was to hold a stout bar against the end of the rod and to strike the crosshead near the fit with a sledge. This method proved unsatisfactory so a dummy wrist pin, as shown in our second drawing, was substituted for the one regularly used. This pin had a hole bored through it which was threaded to receive a long bolt. By bringing the head of the latter up against the

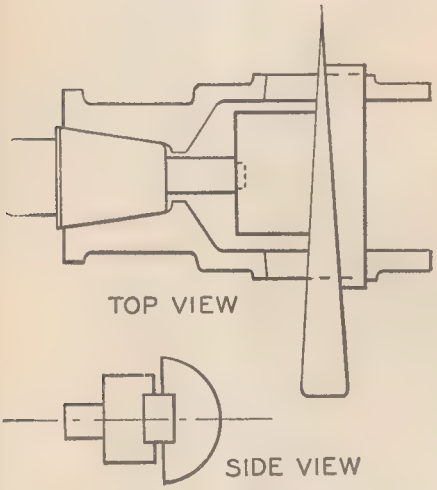
Dummy pin supplied anchor for screwtype parter



SCREW-TYPE PISTON PARTER

rod and giving it a few additional turns the fit could be broken. Unfortunately, however, the "V" threads had a way of stripping after several applications. In time square threads were substituted and

WEDGE TYPE PISTON PARTER



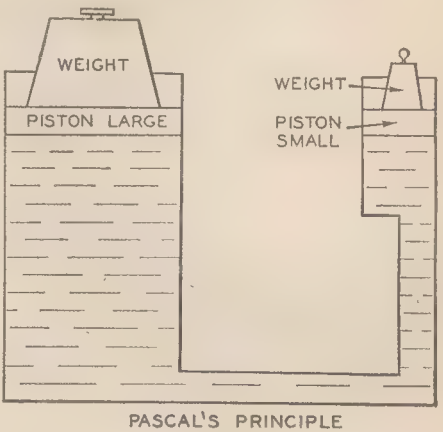
these held up longer. But the use of larger pistons and heavier rods created the need for a more effective buster.

This took an ingenious form. Somewhere along the line a foxy nutsplitter reasoned that if a wedge could drive two parts together it could be used to separate them. In our third drawing we see a device consisting of a dummy wrist pin, or half a pin rather, formed by cutting a cylindrical bar of steel in two, lengthwise. Into the flat surface of the resulting member a tapered slot was cut to receive a wedge. The opposite surface of this wedge contacted a similar groove in an insert turned round to fit against the end of the piston rod. As the wedge was driven home with a sledge it exerted great pressure against the rod end, forcing it to let go. Too often, though, the wedge itself became seized, making it necessary to expand the crosshead by heating it, while keeping the rod contracted by means of cold water. If this failed, as in late years it often did, the torch ended the career of the rod.

This was the situation when the Sperry Corporation stepped into the picture about two years ago with its now renowned piston parter.

What it does is to make use of a long-established principle of physics. Years ago a physicist named Pascal, while experimenting with hydraulics, discovered that "when pressure is communicated to any part of a fluid it is transmitted equally on equal areas in all directions through the fluid." Translating this into a specific illustration let us take two pistons of unequal areas and connect them with a channel. Assume one piston to have an area of one square inch and the other, 10 square inches. Now, according to Pascal's Law, if a single pound's pressure is placed on the smaller one, a pressure of one pound is exerted all over the liquid; hence the larger piston is capable of holding a weight of 10 pounds. Thus a very small pressure can exert a great one.

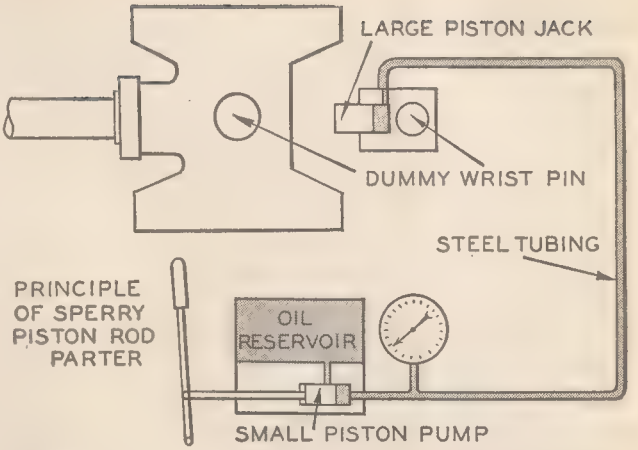
Sperry, as just mentioned, put this law of hydraulics to effective use in its piston parter. The apparatus, which can be assembled on a truck and easily wheeled to any pit in the shop or enginehouse, consists of a pump (which is actually the small piston) and a jack (which is actually the larger one). These two are connected by means of steel tubing. The entire device comes in various sizes to meet different



"Pressure applied to fluid is transmitted through it in all directions with equal force"

requirements and it can develop a force at the jack of 250 tons, though the initial pressure never exceeds 35,000 pounds to the square inch. To withstand such pressures the parts are made of high-grade alloy steel. They are light in weight and capable of being handled by one man.

First the ram is placed in the crosshead and a dummy wrist pin used to back it up. To make the fit secure and eliminate lost motion, various bushings applicable to any type crosshead are supplied. The piston of the jack is threaded so that it can be set snugly against the rod. It is made further foolproof by incorporating a port to prevent overtravel, and a relief valve to vent excess pressures.



Sperry piston rod parter operates on Pascal's principle

Only a few strokes of the short pump handle are required to build up enough pressure to part the toughest rod. There is no need of violent sledge impacts, for the stress is slowly and evenly distributed both at the sides of the crosshead and against the rod. Nor is there any distortion of parts to make reassembling difficult.

INFORMATION BOOTH

Each month the Lantern Department prints answers to rail questions of general interest, submitted by our readers. We do not send replies by mail.

1

PLEASE *describe the Captain Edward Richardson, the Pennsy's new Chesapeake Bay car float, which entered service early this year.*

Launched December 16, 1948, at the New York Shipbuilding Company's Camden, N. J. yards, the *Captain Edward Richardson* is named for a deceased Pennsy boat master who was in charge of the railroad's marine operations on Chesapeake Bay for over 32 years. Christened with a bottle of bay water by Captain Robert R. White, veteran car float chief officer, the christening ceremony was unique in that the sponsor was the captain of the vessel when it went into service on January 8th.

Augmenting a fleet of 7 other large car floats in the PRR's trans-bay service, the new float plies between Cape Charles and Little Creek, near Norfolk, crossing the 29-mile mouth of Chesapeake Bay. Carrying 4 railroad tracks, capable of holding 32 freight cars, depending on car length, or 6 more than the other vessels, the new float is 418 feet long, or 60 feet longer than its team-mates. With a beam of 51 feet and a depth of 13 feet, the *Richardson* will displace 3432 tons when loaded. Amidships in a traverse structure elevated above the freight cars, are quarters for the 5-man crew. In addition to the pilot house, from which the float is steered, the quarters include an office-bedroom for the captain, two staterooms for the crew, and a modern galley. Electric lighting is provided and all sleeping quarters have hot and cold showers and lavatories. The hull consists of 22 water-tight compartments, of which several can be punctured in case of emergency, without endangering its seaworthiness. A higher freeboard enables the towing tug to move the float faster, speeding service.

Pennsy launches car float *Capt. Edward Richardson* at Camden, N. J.

Other vessels in the Pennsy's marine modernization program include two 330-foot, 3-track car floats and two 250-foot 2-track floats, placed in operation in New York Harbor late last year. Ten new 80-foot open deck lighters of 250 tons' cargo capacity have also been recently added to the railroad's Gotham harbor fleet and a 1200-horsepower steel tug has just been completed.

2

LIST *railroad abandonments of 1948.*

Last year United States railroads ceased operations on 617 miles of lines, 53 less than the year before. In 1948 there were 463 miles of track taken up and an additional 154 miles on which service has been discontinued pending removal of rail. Last year's abandonments increased the amount of line that has gone by the board since 1916 to 33,095 miles. During the last 9 years 80 entire railroads have given up the ghost, including two former Class I roads. In Canada 23 miles were abandoned, 10 more than in 1947 while 6 miles were discontinued in Mexico.

Largest individual abandonment in '48 was that of the Tonopah & Goldfield, extending 97.28 miles between Mina, Nevada and Goldfield. Next longest was the 48-mile line of the Southern, from Rome, Ga., to a point two miles east of Gadsden, Ala. Third largest abandonment was that of the New Haven's 32.44 miles Shepaug, Litchfield & Northern between Hawleyville and Litchfield. Fourth was the entire line of the scenic Rapid City, Black Hills & Western, between Rapid City and Mystic, S. D., 32.20 miles.

Six entire railroads were abandoned in 1948, largest of which was the Tonopah & Goldfield. Next largest was the Rapid City, Black Hills & Western. Third, the 28.99-mile Bingham & Garfield, connecting the two Utah towns of those names. A wholly-owned subsidiary of Kennecott Copper Corporation, which was the principal user of the line, the B&G has been replaced by a 14-mile plant-facility electric traction line. Bingham & Garfield traffic not handled by this new line can be accommodated by the Denver & Rio Grande Western, which acquired a 1.9-mile segment to serve American Smelting.

Fourth longest entire line abandoned during 1948 was the remaining 25.7-mile portion of the Tonopah & Tidewater, between Ludlow and Crucero, Calif. Authority had been given in '46 to abandon the entire 169-mile line from Ludlow,

Calif., to Beatty, Nev. No traffic had moved over the road since 1940, and in 1942 the War Department requisitioned the rail and other steel for use in the war effort. That part of the line between Crucero and Beatty was taken up then. The T&T was built originally to serve borax deposits which were abandoned several years ago.

The two other lines discontinued during 1948 were the Flint River & Northeastern, reaching 23.03 miles between Pelham and Tichnor, Ga., and the Clarion River, 11.06 miles, extending between Hallton and Carman, Pa. Need for this latter road vanished when the Susquehanna Corporation ceased operation of its chemical plant at Hallton. These abandonments compare with 2 entire roads abandoned in '47; 3 in '46; 4 in '45; 8 in '44; and 3 in '43. Fourteen roads were discontinued in '42; 14 in '41; and 13 in '40. Thus, with the 17 in '39, a total of 84 roads passed out of existence in the 10-year period now ended.

Between 1917 and 1948, inclusive, a total of 33,095 miles of track was abandoned. Since records of abandonments were started in 1917, mileages have ranged each year from the low of 282 miles in 1927 to the high of 2515 in 1942. During the 32-year period recorded only 11,234 miles of new lines have been constructed, resulting in a net decrease of 21,861 miles in the total mileage of the country's railroads. This is an average annual net reduction of about 683 miles.

Georgia had the largest total miles of line abandoned in '48, 109.16 miles; Nevada ranked second with 97.28 miles; Utah was third with 51.91 miles; while Pennsylvania with 46.23 miles was fourth. The 3 states having the largest total abandonments during the 17-year period ending with 1948 continued to hold the same relative rank as in 1945, 1946 and 1947. However, fourth place ranking changed in 1948 by virtue of Pennsylvania displacing Missouri. Texas continued to lead all states with 1,431.34 miles abandoned in the period, although no lines were discontinued in 1948; Michigan was second with 1,167.05 miles; California was third with 1,152.89 miles; and Pennsylvania fourth with 1,117.75 miles.

Twenty-three miles of line were abandoned in Canada during '48 to bring the total since 1932 to 1,241 miles. In that period Canadian abandonments have

Rapid Canyon Line's No. 2 leaves Mystic, S.D. Abandonment of road was 4th largest in '48

Harold A. Jenkins Collection, Windsor, N. S.

Dominion Atlantic's *Digby*, built in 1893 and numbered 18, is one of the Nova Scotia road's bygone *Americans*. Of 21 steam locomotives in operation today, all are *10-wheelers*

ranged between 11 and 399 miles per year, except for 1943, when less than one mile was discontinued, and in 1945 when no lines were abandoned.

3

GIVE *a brief historic sketch of the Dominion Atlantic Railway in Nova Scotia.*

The Land of Evangeline Route began with the proposal for a railway to provide access to Halifax from Annapolis Valley in 1835, only 10 years after the Stockton & Darlington Railway opened in England. The initial survey, covering the Annapolis Valley portion of the line, now the Dominion Atlantic, was authorized over a century ago, in 1846. The first section of the present Halifax subdivision was completed and opened between Richmond and Truro December 15, 1858, with a stagecoach connection into Halifax. Later, in

Odds against this BEDT oil-burning switcher leaving Brooklyn for a run down the main are 100-to-1: the Brooklyn Eastern District Terminal owns no trackage beyond dockside facilities. Its 3 yards, 8 locomotives and numerous car floats serve 9 eastern carriers

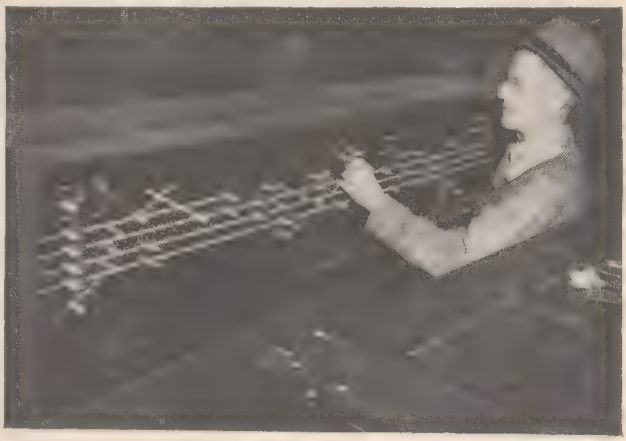
April, 1876, the gap between Richmond and Halifax was closed. The Dominion Atlantic Railway was incorporated July 22, 1895, as an amalgamation of the Windsor & Annapolis Railway and the Yarmouth & Annapolis Railway, which had been consolidated October 1, 1894.

The new company also took in the Western Counties and the Cornwallis Valley railways and continued their operation until January 1, 1912, when the entire railway, including also the Midland Railway Company Limited of Nova Scotia, acquired in October, 1905, as a connection between Windsor and Truro, was leased by the Canadian Pacific Railway for 999 years. By this transfer the Dominion Atlantic did not lose its identity, but is still operated under its corporate name. The Windsor Branch of the old Canadian Government Railways is operated by the Evangeline Route under a 99-year lease from January, 1914. Dominion Atlantic trackage consists of 256.2 miles of line owned as follows: Windsor to Yarmouth, 170; Windsor to Truro, 57.4; Kentville to Kingsport, 14; Centerville to Weston, 14.8 miles. Leased lines operated: Windsor Branch of Canadian National Railways, Windsor to Windsor Junction, 31.7 miles; trackage rights over the Canadian National from Windsor Junction to Halifax, 15.7 miles; and through Truro Yard, .4 mile. Total length of lines operated is 304 miles. Equipment owned consists of 21 locomotives, with all rolling stock owned by the Canadian Pacific. The CPR steamship service operating across the Bay of Fundy, between Digby, Nova Scotia and St. John, New Brunswick, perpetuates a run originating July 4, 1827.

4

DESCRIBE *the Missouri Pacific's new entrance-exit centralized traffic control plant at Kansas City.*

First entrance-exit CTC system with coded control for distant points to be installed in the United States, the MoPac's new plant extends for 10,900 feet, or more than two miles, along the Missouri River levee between Troost Avenue and Santa Fe Street. The installation will be used by almost every road entering Kansas City with the exception of the GM&O and Kansas City Terminal and it is expected that between 500 and 800 movements will be made each day over the plant. The track is owned by Missouri Pacific but trackage rights have been granted the Kansas City Southern and Milwaukee Road over that portion between Troost and Broadway and to the Rock Island for the full length of the installation. Other lines will use the trackage for transfers and for deliveries to the Kansas City Produce yards. The new plant replaces a 23-year-old electric interlocking system.



Courtesy Missouri Pacific

A. T. Hunot inspects the MoP's new CTC control board ***(see below)***

The control board is located in a concrete block and steel tower at the foot of Broadway, while cabins housing various relays and other instruments required in operation of the plant are situated at Troost Avenue, Broadway and Santa Fe Street. The cabins are of portable steel construction mounted on concrete footings and flooring. There are 48 power switches operated from the control panel, and 48 signals, all of the dwarf variety. Cables connecting them with the control board

and the operating instruments in the cabins are of the submarine variety, laid underground in trenches. The plant is named N-X from the words entrance and exit, which means that alternate routes are automatically set up if the chosen route is unavailable.

5

SUPPLY *information on the Giesl ejector front end and the results of a test recently made with it on a Baltimore & Ohio Class Q-4 Mikado type locomotive.*

The problem of reducing cylinder back pressure, without interfering with steam locomotive performance, has received the attention of many designers. Dr. Adolph Giesl-Gieslingen, honorary lecturer on locomotive design at the University of Vienna, has made an almost life-long study of the subject and spent many years developing front-end designs. Many Euro-

Snow news is good news. After 37-day trials, CNR announced its glad tidings: the Barber-Greene snowloader and melter disposed of 37,140 cubic yards of Montreal snow at 33 cents per cubic yard—half the old cost. Mounted on 2 cars, machine consists of rotary loaders which empty snow into 12,000-gallon melting tank. Tank is dumped at a trackside creek, *left*, or from a bridge when a side port is kicked open

pean steam engines are equipped with the Giesl ejector front end and have been turning in good performance records. Dr. Giesl was given a chance to study front-end combustion conditions on the B&O's Q-4s, and the railroad felt that a test application to one of these engines would be worthwhile. Therefore a Giesl ejector front end was made and applied to locomotive No. 4403 at Mt. Clare Shops, on August 19, 1948, for service test on the Baltimore Division.

The Giesl arrangement is built as a self-contained ejector, combining exhaust nozzle, intermediate nozzle and stack, in a rigidly assembled unit, resting on a conical seat at the top of the smokebox, with a slip joint between exhaust nozzle and base. The ejector is held in place by its own weight and no fastening bolts are used for the securing the stack as with the conventional application. The steam jet is split so as to properly fill the conical stack and obtain, within restricted roadway clearance height, more complete mixing of steam and gases and products of combustion. Top outlet diameter of the Giesl ejector is 26¾ inches as compared with the 20½ inches diameter of a conventional stack.

Lower stack pressures are obtained with the Giesl specially-designed nozzle which has 45.5 square inches of free area as compared with 31.3 square inches with the Goodfellow nozzle employed on other Q-4s, with the exception of those with annular nozzles, which have 36.7 square inches and a 26-inch diameter stack at the discharge end. The lower pressure exhaust of the Giesl is demonstrated by the remarkably free and distinctive sound of the exhaust. Maximum performance seems to have been considerably increased, with higher drawbar pull. Coal and water consumption has also been reduced. Due to low discharge pressure, sheet steel smoke deflectors have been attached to the sides of the smokebox of Locomotive 4403. Results on this engine have been encouraging and it is planned to conduct dynamometer tests to compare over-all efficiency of this locomotive with others having standard arrangements. The lower back pressure obtained with the Giesl front end should cause less wear and tear on rod bushings and crank pins, resulting in a reduction in shop maintenance cost.

6

IS THE *Pullman named* Conneaut *on the ACL's all-Pullman train* Miamian *running between Miami and New York, the same car that carried President Roosevelt's body to Hyde Park?*

The 7-compartment lounge car *Conneaut,* operated over the Pennsylvania, Richmond, Fredericksburg & Potomac, Atlantic Coast Line and Florida East Coast, on the *Miamian,* is the same car which carried President Roosevelt's remains to Hyde Park in April, 1945.

7

LIST steam locomotives ordered by United States railroads in 1948 and give their principal specifications.

Three hundred and fifty-two steam locomotives were ordered last year from United States builders, including 283 for export.

Units	Type	Service	Wt. Lbs.	T. F.	Cyls.	Date Ordered	Date Delivered	Builder
C&O 4	2-6-6-2	Freight	449,000	98,300*	22&35x32	July	Jan.-May, '49	Baldwin
C&O 21	2-6-6-2	Freight	449,000	98,300*	22&35x32	July	Jan.-May, '49	Baldwin
L&N 22	2-8-4	Freight	456,000	79,290	25x32	Mar.	.....	Lima-H.
NKP 10	2-8-4	Freight	440,800	64,100	25x34	July	.....	Lima-H.
N&W 7	2-8-8-2	Freight	582,900	152,206	.....	Apr.	1st half '49	Roanoke
N&W 5	2-6-6-4	Freight	573,000	114,000	24x30 (4)	Apr.	1st half '49	Roanoke

* *Tractive effort, compound*

Locomotive of the Month:

Rock Island's Suburban Diesels

IN LINE with its commuter train rehabilitation program the Chicago, Rock Island & Pacific recently put into service two 1500-horsepower Diesel-electrics constructed by Fairbanks-Morse expressly for suburban operation. Numbered the road's 400 and 401, the two machines differ from the builder's all-purpose design in a number of respects. A 60-19 gear ratio, for example, gives them a maximum speed of 85 mph. Dual controls located on opposite sides of the cab and in reverse position provide for double-ended operation; type H tight-lock couplers with rubber draft gear give freedom from jerks at starting, and a 1600-pound steam generator, designed to be operated with like units when several engines are run multiple unit, supplies steam heat for the coaches. There is a 750-watt, 64-volt generator set for operating the airbrake circuit, and provision for supplying train lighting via jumper connection.

Since January of this year the two units have been running between Chicago and Joliet, Ill., and between Chicago and Blue Island, distances of 40 and 16 miles respectively, on carefully arranged schedules which total 1998 miles for one unit and 2047 miles for the other, weekly. The present program calls for No. 1 unit to leave Blue Island just before 5 a. m., Monday and to make 2½ round trips between Chicago and Joliet, tying up at the latter point at approximately 12:40 a. m., Tuesday. During the same period unit No. 2 leaves Joliet (7:35 a. m., Monday) and makes 3½ round trips between that point and Chicago and 1½ round trips between Chicago and Blue Island, tying up at Blue Island.

On Tuesday the schedules are reversed and this system of equalizing mileage continues until Saturday when each unit makes 2½ round trips between Blue Island and Chicago and 2½ round trips between Joliet and Chicago. Finally, on Sunday, each locomotive makes two round

trips, completing a cycle which puts unit No. 1 back in Blue Island and unit No. 2 back in Joliet for resumption of the schedules just described, on Monday.

Rock Island is currently studying the possibility of completely Dieselizing its commuter service. In addition, the *Route of the Rockets* is remodeling existing rolling stock and has on order with Pullman-Standard 20 new lightweight suburban cars. Seating 100 passengers apiece these green and gold coaches will have two sliding side-doors on either side, situated between the trucks instead of at the car ends. Fluorescent lighting and forced air ventilation are other high points of design.

Once more it appears that the western carriers are going to take the lead in developing new concepts of rail travel. If the eastern systems are as reluctant to follow suit as they were to close the last link in transcontinental streamliner service, commuters in the New York and Boston areas may look for something comparable to the Rock Island cars, and those just ordered by the Burlington, in 1955 or '56.

Specifications

Builder—Fairbanks-Morse

Type	B + B
Overall Length	54-0
Overall Width	10-4
Overall Height	14-6
Truck Wheelbase	9-6
Total Wheelbase	39-6
Weight (Without Heater)	240,000
Driving Motors	4
Driving Wheel Diameter	42
Tractive Effort (Starting)	72,000
Fuel Oil	900
Lubricating Oil	300
Cooling Water	175

Below: **A Fairbanks-Morse suburban Diesel pulls out of La Salle St. Station, Chicago, for Joliet. These units are turning out daily averages of around 300 miles apiece on multi-stop runs of 10 and 16 miles. A total of 10 engines will soon be in service**

Courtesy Railway Age

BOOMING AROUND

By BILL WALLACE

THE whole thing was nutty as a fruit cake to me, that early, muggy, winter morning back in 1909. I knew as much about railroading as a hog knows about figure skating.

Yet here I was in all my ignorance, packing a brand new hay burner, with a shiny switch key tied on the end of a leather shoe string and a Nickel Plate book-of-rules in my hip pocket reporting for a job switching boxcars. I felt like pinching myself to make sure I was awake while I waited along with a whole herd of seasoned rails for the yardmaster to line up his crews.

That was back in Buffalo, N. Y. Since that eventful day I've worked for at least 17 different railroads that I can remem-

The caboose of the stock train, telescoped over the other train's engine, was in flames

ber, plus quite a number of very short periods I've forgotten. Becoming a full-fledged boomer was just one of those things. I expect if I had it to do over again I'd follow the same trail. Some of it has been damned unpleasant. But a whole lot of the time has been *mucho* fine. So I ain't kicking. Give me a few more months and I'll find a nice easy rocking chair where I can hear the grunt of a working yard engine, or the clunkety-clunk of a Diesel-electric and somebody else can have the seniority I've built up out here on the Western Pacific. Sure, I've drawn pay checks from nearly every major pike from the Atlantic to the Pacific.

But to get back to that first day and what led up to it . . . I grew up on a farm and was as husky as a young bull and as hot-tempered and independent. I had a little argument with my father and simply gave the farm back to him one afternoon. With mighty little money in my worn jeans I headed for Buffalo where I picked up a job working in a grain elevator. The

job was a man-killer, but what the hell! I didn't mind it. All it consisted of was tossing hundred-pound sacks of flour to a fellow who stood on a ladder above me, who in turn tossed them to the next higher man until they were stacked ceiling high in a massive warehouse.

I found a boarding-house which operated in connection with a saloon. An elderly fellow named Tom Crawdy owned the whole shebang. We had cubby-hole rooms but the saloon was our lobby. Board and room, $3.50 per week. In these days of skyrocketing prices I can hardly believe things were ever like that. Tom Crawdy fed us like kings and if we wanted a drink or two between paydays our credit was good. Most of his trade consisted of Nickel Plate and Erie railroaders and I got quite a kick sitting around evenings and listening to them talk about all the places they'd been and the adventures they'd had. A lot of their railroad lingo went clear over my head, but I caught the gist of it.

Tom and I had got to be pretty good friends. One evening Tom said to me, "Bill, did you ever think about goin' to railroadin'?"

"Hell, no," I told him. "I don't know one end of a boxcar from the other. In fact, the farm I grew up on wasn't even close to a railroad."

"Ain't nobody ever been born yet who knowed anything about railroadin' till he learned," grinned Tom.

I was dubious and looked it. So Tom put it bluntly. "Well, do you want a job switchin'? he asked.

"Could I get on, bein' a plumb greenhorn?" I countered.

"If you want a job I can fix you up," he declared.

I made a quick decision. After all, pitching hundred-pound sacks of flour all day didn't have much future. "Fine," I beamed. "Get me a job switchin'."

"Be around here in the mornin'. I'll send you over to the Nickel Plate yards with an introduction to the yardmaster. He's a good friend of mine and will hire you," promised Tom.

Bright and early next a.m. I went into the saloon. Tom nodded to me. Then he took a pint of whisky off the back bar. "This is your introduction to the yardmaster," he said. "Stick it in your pocket. When you get to the NKP yards hunt up the Y.M. and give him this. Tell him I sent it and that you want a job. That's all there'll be to it."

I didn't know whether I was being made the butt of a joke or not. But it was worth a try. So I slipped the flask in my hip pocket and took off. I didn't have much trouble locating the yardmaster when I reached the yards. But all the bustle, the whamming of working switch engines, the to-me-then insane movement of box- and coalcars darned near scared me back to the saloon.

THEN the pungent aroma of heavy coal smoke, of packing dope and valve oil, the overall smell of the railroad hit my nostrils and I sniffed it. And it was a good smell and I liked it. I pulled my hat lower over my flaming red hair and with determination in my deep blue eyes I headed for the grimy shanty which a heavy-fisted, foghorn-voiced switchman pointed out to me as the "yard office, where ya'll find th' king if he ain't spinnin' like a top out on th' long lead somewheres."

But the "king" was in his office. He was a big bruiser with the face of a bull dog and the voice of a steam calliope. I hauled out the pint of whisky and extended it. "Tom Crawdy sent this over to you," I said.

He took it. At the same time he eyed me from top to toe. "What in hell is this?" he roared. "A bribe?"

"He said you might give me a job switchin'," I informed him.

Instead of replying he stooped over. When he came up he had a brand new oil lantern in his hand. He thrust it at me and I took it. Next he fished out a book-of-rules and a new switch key and handed them to me. "You're hired," he barked. "Show up at 6 a.m. in the mornin' an' go to work."

Like one in a daze I stumbled from the yard office. Believe it or not, those days a job railroading, particularly switching boxcars, was as easy as that. No doctor's examination. No filling out an application blank. No writing the book-of-rules. In fact, this official hadn't even asked me if I'd ever railroaded before.

That afternoon I studied my new book-of-rules, paying particular attention to the one about flagging because one of the boomers who hung out at Tom's told me that was the important one. In the privacy of my room I practiced a few signals with my new lantern. That night I crawled into bed bright and early because I didn't know what the new day was going to bring. If I had I'd probably have failed to show up for my new job.

Being the dead of winter, it was dark as pitch when I crossed the maze of tracks in the general direction of the Nickel Plate switch shanty next morning. But my new lantern was burning brightly and I was dressed in new overclothes, had new gloves and cap and was prepared for the worst.

At that time, 1909, there was no 16-hour law. Switch crews worked 12 hours to a shift. There was a day and night differential in pay. Day men received 25 cents per hour. Night work got 3 cents more, or 36 cents per shift. So all the old heads worked nights while the young heads held the day jobs. Off the record, I'd kinda like to see a good differential like that again. It might get me a day job to finish up on.

At the switch shanty I found a regular army of switchmen loafing on the benches around a red-hot stove, laughing and talking while they waited for the Y.M. to come in and assign them to their jobs. Another thing about those days: There was no extra board, no calls. Every man who wanted to work showed up. Those who didn't want to work stayed at home. It was as simple as that.

Pretty soon the Y.M. came roaring in. He began lining up the crews for the different engines. Finally his eyes fell on me and he recognized me. "You'll go with the West Seneca engine, Wallace," he instructed. "Your foreman will line ya up when ya get there."

I tingled. Up to then I'd been skeptical about the whole thing. But now it seemed I was going to get my name on a time slip after all. Along with my foreman and a couple of other switchmen I filed out into the cold darkness which hangs heavy before the dawn. We found our engine, a fan tail, and boarded her.

After jogging several miles we halted. Alongside the mainstem was a switch shanty. The foreman prodded me. "Wallace," he instructed, "You'll stay here at the shanty. Inside is plenty of flaggin' equipment. We got a flock of work to do down the line. So don't let no trains by ya. Do you get that?"

"I get it," I assured him and dropped off. The engine whoofed off into the darkness. I entered the shanty and found plenty of fusees, torpedoes, red lanterns and other flagging stuff. Outside I could see the shiny rails of our Nickel Plate. There were more shiny rails beyond. More Nickel Plate, I surmised.

I located a stool and sat down to let the world flow past. Suddenly off in the distance I heard the mutter of a swiftly approaching train. Taking up a red fusee I strolled to the door and squinted down the line. A bright headlight was bearing down on me. "Don't let no trains by," had been my instructions. So I cracked the fusee and began waving it across the track on which the train approached. From the sounds of the exhausts it was a passenger. And it was on the next track beyond our mainstem. But that meant nothing to me. The NKP was probably double-tracked along here.

"Who-o-o, Who-o-o," came an answer to my red fusee and the exhausts shut off. The passenger engine drew closer, close enough so I could dimly make out a pig-tail insignia on her front end. That's what we called Pennsylvania trains, "Pig Tails."

I began to feel my ears burn and a silly grin twisted my lips. It looked like I'd started out my railroad career by pulling

a nice juicy boner. I walked up below the cab.

"You're a Pennsy train, ain't ya?" I asked the hogger who was leaning out his window.

"That's right. What's the flag for?"

"Well," I stammered, "I'm Nickel Plate. I was told to not let any trains by. But it looks like I kinda got mixed up on my railroads."

The hogger began to chuckle. A broad-minded old codger, that throttle jerker, and he probably saw the hay from the farm still sticking out of my ears. "Okay, young feller," he laughed. "Only after this, kinda do your flaggin' on your home grounds."

HE REACHED for the whistle cord to blast off. But a raucous, officious voice cut in.

All dudded up in his blue uniform with shiny buttons and a hell of an exaggerated sense of his own ego was the conductor. "What's all the trouble?" he demanded.

The hogger explained.

"Damme," yapped the conductor, "this kinda railroadin' can't be allowed. Something has got to be done about it." He scowled darkly at me and I felt my red hair begin heating up. "You'll hear more about this, I promise," he predicted darkly.

"That's fine by me," I told him. "And ya ain't gainin' any time standin' here warnin' me. I made a mistake. You know what the score is."

Still muttering his threats, he swung a reluctant highball and the Pennsy passenger whammed off into the dawn.

A couple of days later the trainmaster called me to his office. He wasted no words. "Wallace," he began, "just what railroad are you supposed to be working for?"

"Well," I explained, figuring I was going to be fired anyhow. "I was working for the Nickel Plate."

"I take it that you know the difference between Nickel Plate and Pennsylvania insignia, don't you?" he shot.

I nodded.

"Then what in hell do you mean flagging Pennsy trains?"

I decided to brazen it out. "The book-of-rules says when in doubt to use your own judgment. I was in doubt. So I flagged that Pig Tail before I could see who he was."

The official nodded slowly. "Well," he decided, "remember that you're getting paid by the Nickel Plate, not the Pennsy. Try and stay off their mainline from now on. That's all."

I'd hurdled my first call on the carpet pretty nicely. During the years that followed I'd be called up plenty of times when I couldn't hurdle. They would be the times I'd have to get out and hunt up another job switching.

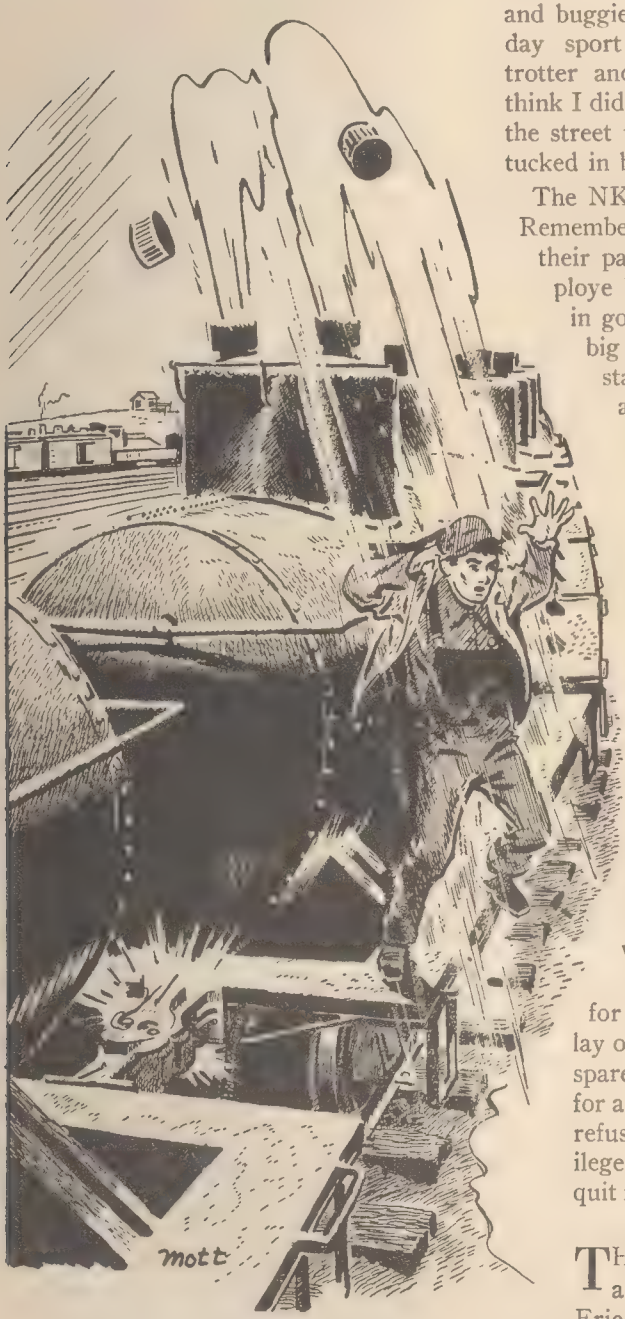
I'd been with the NKP a couple of months and was pulling pins in the West Seneca yards. On the morning in question the weather was foggy and cold and raw. A stock train was due in at any minute, so we'd made them an alley. While we stood on the spot I finally heard them coming rather slowly. The engine headed in and dragged past. All at once they halted. It seems they'd found a red signal. They hadn't been halted over a dozen seconds when there came a crash from the rear end and slack smashed through the train, moving the engine ahead a dozen feet.

"Cripes," breathed our foreman, "looks like somebody's got into their hind end!"

About that time men began running back into the fog. All of us followed, because we knew instinctively that something serious had taken place.

We found the caboose of the stock train in flames. It had been telescoped against the rear stockcar by the locomotive of a following train. In the caboose were the conductor, rear brakeman and four stockmen. The impact had tipped over the stove which had been red hot. This had set the caboose on fire. There was nothing any of us could do. Six men burned to death while we stood helplessly by. The hogger on the engine that had hit the stock train brooded about it until he went insane. This was my initiation into trage-

dy on the rails. In the years to follow I'd see plenty of violent death and injury. But none of it would stand out as vividly in my mind as this first one.



When they hit, a regular Niagara of gasoline flew out of the domes, soaking me to the skin . . .

With my first pay check I'd purchased a flock of dress clothes. The best pair of shoes was only $2.50 while a tailored-to-measure suit was around $12.50. And because all the young bloods sported horses and buggies, like the young bloods of today sport convertibles, I purchased a trotter and a slick buggy. Maybe you think I didn't cut a figure as I drove down the street with a goodlooking lady friend tucked in beside me.

The NKP ran a paycar once a month. Remember the old-time paycars, with their paymasters who knew every employe by his first name and paid off in good cash money? That was the big day of each month, and we'd start watching for the outfit bright and early. A little shiny engine trailing a couple of cars would come rattling down the main, stopping wherever a man stood who looked like a rail. We were paid in silver and bills, but I'd heard how they paid off in gold in the West.

Working around boomers, hearing their tall tales about strange, new places caused my feet to itch. I wanted to be a boomer. I wanted to adventure out on the high iron where jobs were thick as fleas on a mangy dog. I hankered to see the world.

But I stuck it out on the NKP for six months. I'd been trying to lay off. But our yardmaster couldn't spare me. Every time I asked him for a couple of days he'd blow up and refuse. I knew I had one more privilege than a soldier in that I could quit my job. But I kept hanging fire.

THEN one evening I bumped into a yardmaster off the Erie. The Erie had a hump yard in Buffalo and I knew they always needed switchmen as well as hump riders.

"Are you hirin' any switchmen these days?" I asked him.

"Cripes, yes," he assured me. "I'll put you to work any time you want a job."

That gave me something to stand on. So I hit my yardmaster for a couple of days off once more. Again he blew up and refused. I waved an airy hand. "Okay," I told him. "Write her out."

"Meanin' you're quittin'?" he demanded.

"You just ain't kiddin'," I grinned at him. "I aim to see some of the world."

I had him behind the 8-ball. Nothing he could do except give me a D.C. I loafed around a couple of days and then went over to the Erie and bumped the Y. M. for a job on the hump. He handed me a lantern, book-of-rules and a switch key. "Show for work at 6 a.m. tomorrow," he advised.

I'd been railroading six months, holding a steady day job all this time. That 3-cent differential made a whale of a difference. Those older heads sure relished that 36 cents a day more, so much so that all of them had developed eyes like owls and the sleeping habits of cats.

So I stepped right into a day job on the Erie hump.

To those of you who've never been around hump yards, I'll tell something about them and how they work. The pin pullers work at the summit of the hump and classification tracks fan out from there. The heaviest kind of power is generally used to shove up the cars, and unless an emergency arises, this heavy power is never stopped. She usually drags from 50 to 100 or more cars off a rail and starts shoving them up the hump. Meantime, the cuts have been chalked so the pin puller knows right where they are. The big engine starts shoving at a steady 3- or 4-mile-an-hour speed. As each cut tops the hump the pin pullers snip them off and away they go, down into their various tracks which are controlled by a towerman. This is where the riders come in handy. Armed with pick handles, each rider takes his turn as his cut starts down the hump. He picks out a likely looking brake and when his cut is at the lower end he twists up the brake and stops the cut. Then he ties down a few more brakes so that that particular cut will act as a bumping post, and goes back up to take his turn once more.

These days, most humps have retarders which mechanically stop each cut by pinching the flanges on the wheels. They also have "hurdy-gurdies", little cars on which the riders are hauled back to the top. But there were no retarders save a husky rider plus a pick handle in the Erie Yard at that time. And there was no hurdy-gurdy.

Down at the far end of the hump was a very cozy saloon, nice clean sawdust on the floor, nice cheery stove throwing welcome heat over the room. The doors always stood invitingly open, 24 hours a day. Riders got cold on the long voyage down the hump. Twisting up on the brakes created quite a thirst. So as each rider brought his cut to a safe stop and tied down some brakes, he immediately dropped off and hiked swiftly across to the saloon, his day's work completed so far as he personally was concerned.

Of course, the yardmasters did a lot of yowling about this practice, but what the hell? Men were scarce and jobs were plentiful. So day after day, a rider made only a single ride. Half a dozen times the Y. M. came storming into the saloon to find most of his riders bellied up to the bar, elbows resting on the polished top, hands curled around a 32-ounce mug of beer.

"Come on, you bums, get up to the top of the hump!" he'd bawl. "I ain't got a damned rider left."

"Ride 'em yourself," some racuous voice would mumble from a beaker of foam. "We've already done our stint."

What could he do? If he fired us he'd be plumb out of riders. If he let us stay he'd get at least one ride out of each of us in the a.m.

Of course, there were no new, modern-geared hand brakes then. Now a fellow can be fairly certain of stopping a car if it has an *Ajax* on it. But all we had were the old staff brakes, and plenty of them

were merely decorations on the tops of cars.

I'd been doing fairly well until the morning I caught seven cars of wheat as my cut. The stuff was heavy as lead and when they were cut off they took right off for the weeds. I went after the first brake only to find it was exactly nil. The second was no better, nor the third. By that time we were rolling at a merry clip. So I bawled at the top of my lungs, "No brakes!" and unloaded. Those seven cars hit and registered like a clap of thunder. They busted wide open and wheat spilled all over the yards. A wrecker picked up the mess. I didn't even get a reprimand out of it. That kind of an incident was everyday stuff on the hump

Another day I caught five cars of gasoline. Like the wheat they didn't have a sign of hand brakes. Knowing the danger of gasoline I didn't yell "no brakes!" and unload. I stayed with them, hoping that maybe one of the brakes would take hold. But I was out of luck. When they hit, the tops of the domes flew open and a regular Niagara of gasoline spewed into the air. It soaked me to the skin. Fortunately, I wasn't smoking at the time, and the stuff didn't catch fire before it evaporated.

I'd been working for the Erie some six months before my feet began itching for new tow paths. Meantime I'd sold my horse and buggy. I had a complete wardrobe of fancy clothes and a sizable bank roll. Wasn't it Greeley who'd said, "Go West, bub!"?

SO I lifted the bolt on my Erie job, and started to drift. Drifting was a pleasant existence while my bank roll lasted. But one a.m. a few months later I woke up in East St. Louis, Ill., broke and hungry. A skinny, beak-nosed boomer informed me that a pike called the St. Louis, Troy & Eastern was hiring switchmen so I gave them a personal call. The boomer wasn't kidding. Less than an hour later I found myself on the payroll, armed with a new lantern, switch key and a book-of-rules.

This StLT&E was a 28-mile coal road. They ran no passenger trains. Their entire business, with the exception of a little merchandise, consisted of black diamonds. The job was a tramp switching proposition. We'd go to work at 4 a.m., leave East St. Louis with a long string of empty gons which we'd peddle to the various coal mines along the line for loads.

The round trip of 56 miles took anywhere from 12 to 18 or 20 hours. But there was no 16-hour law to bother and I was young, husky and full of vinegar. I liked that job so well that I stayed right there for two whole years.

We usually traded from 40 to 50 empties for the same number of loads on these voyages. Of course, the StLT&E didn't have much of a future and since a future was what I hunted for, I decided to drift on. So a little over three years since I started railroading I'd worked for three different pikes and had left each one with a clear record.

As I remember back I don't recollect ever being asked to pass a doctor's examination, nor did I ever write out a book-of-rules until several years later. In fact, I didn't get my first service letter until 1919, and that was from the Union Pacific. And it was no good, it had a "Rule G" on it.

By the time I'd pulled the pin on my third railroad job I was getting pretty damned cocky. I figured I was a big-shot boomer, a regular hell-on wheels switchman. Since I was hot-headed and knew how to use my fists, I'd got by very nicely. I was pretty arrogant when I hit the Y. M. on the Illinois Central in East St. Louis for a switching job. The IC operated a whale of a big yards at that point, and the bulk of their switching was done there.

We handled plenty of pig iron from the many foundries around there. The job wasn't bad, straight switching mostly. At the end of the gigantic yards was a rather ornate brick building known as the Greentree Hotel. The first floor was occupied by a big saloon, also known as the Greentree Saloon. On the second floor was the hotel, while directly across the alley from the building was a big brewery named the Greentree Brewery. I'd moved to the hotel after quitting the StLT&E.

But aside from enough money to pay some board and room, I was flat busted. The first Sunday after I went to work for the IC I was sitting in the saloon, along with a whole army of other rails. The only difference between us was that while I was merely sitting, the rest of them were lapping up schooners of Greentree Beer and other assorted glasses of dynamite. Suddenly the bartender, a mustached individual with a flock of flashing gold teeth and a heavy watch chain draping his bay window looked across the smoke-fogged room at me. "Hey, Bill," he shouted above the din, "don't you drink?"

"Sure," I shouted back to him. "Only I'm broke till payday."

"What of it," yelled the bartender. "Belly right up here and order anything you want. Everybody's credit is plumb good in the Greentree Saloon!"

I took him at his word. In fact, what with my new-found credit in the saloon and the buckets of beer that were packed across the alley from the brewery and upstairs where they were freely passed around among the gang, there was never a dry moment. The IC callers had no trouble getting crews for the switch engines or freight trains. All they had to do was cross to the Greentree Saloon and round up their men. Apparently nobody paid any attention to Rule G. At least, I didn't think they did.

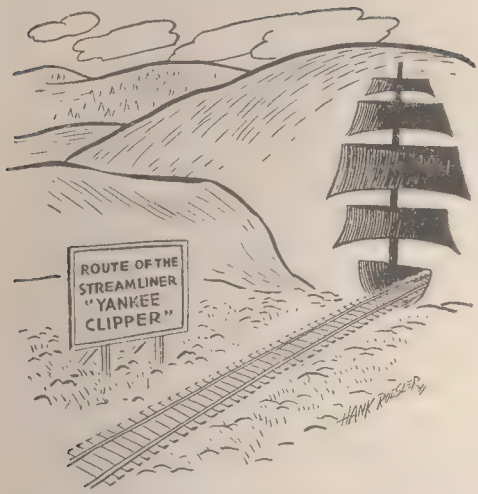
So I was sailing along in a pleasant sort of fog until that afternoon when the caller came after me. I suppose I'd blown the foam off too many schooners. Anyhow, I didn't feel like I wanted to work that p.m. Since the IC was very shorthanded, I awoke next a.m. to find the caller informing me that my presence at the trainmaster's office was much in demand. I got up, dressed and went across to it.

About 10 minutes later I headed back to the Greentree Hotel minus my switching job. I'd been Rule G'd! Now that was quite a blow to my ego. I'd kinda figured I was an indispensable cog in the roaring game. In fact, I was so mad about the whole thing that I decided I'd get even. I'd quite railroading! That would slow down the wheels of commerce.

Eight or 10 miles from East St. Louis was a booming little place called Granite City. A gigantic steel mill, the American, I think it was called, operated there. I went over and applied for a job as a steam fitter. I knew about as much about steam fitting as I'd known about switching back in 1909. But the super took me at my word and hired me. The mill was right alongside the tracks of the Big Four, and all night long I'd hear their yard goats chuffing and their long freight trains pulling out. My job didn't amount to much. All I did was fix air hoses when they broke. But it wasn't like railroading. Those damned switch engines and freight trains made me so homesick I thought I'd go nutty.

I'D FOUND board and room at another combined hotel and saloon. But the patrons here weren't rails; they didn't talk my language. My job in the mill was where they made boxcar wheels. That was something connected with the iron pike, but not close enough to it. I'm afraid I didn't last long on that job. Somebody told me the Big Four needed brakemen. I'd never broke, but it would get me back home again.

There was only one flea in the ointment. That Rule G hanging over my head on the IC might cause complications. Some IC official who knew me might



notice my name on the Big Four board and squawk. Then I'd be out of a railroad job again. I solved that difficulty by inventing a brand-new name for myself. As W. C. Riley I approached the Big Four trainmaster and asked him for a job. Several minutes later I came from his office carrying a new hay burner, a book-of-rules and a switch key. On the trainmens' board appeared a new name: W. C. Riley.

My new job extended from East St. Louis to Matoon, 128 miles. There was nothing much to it; just get on and ride.

Looking back over the years I realize now that I was as independent as Fort Knox, where all the gold is stored. Maybe I was too independent for my own good. Maybe I didn't evaluate the future enough. I guess I'd built up a philosophy all my own. I knew I was here. Tomorrow might never come for me. So why worry about something that was still in the dim and uncertain future? I was as healthy as a mongrel dog. I could eat shingle nails and never have a bellyache. The most potent red-eye did little more than give me a mild headache the next morning. I had two good fists, a crop of fiery red hair, and a temper. I was kind of a cock of the walk.

As you can plainly see, getting all my dope lined up so I can come under the Railroad Retirement Act is going to be a headache. There's simply too much to remember, too many names and places.

Right out of a clear sky I decided to pull the pin on my braking job on the Big Four. I'd been there going on six months and the scenery was becoming too routine along the right-of-way.

I was still half-sore at the IC, so I decided I'd give them the honor of putting my name on their time slips once more. I didn't phoney up that time, but hired out under my right name. That blissful period lasted but a short while. I got Rule G'd the second time. In severing relations with me, the trainmaster emphasized the fact that if I ever stepped foot on their right-of-way again, he'd see to it that I was thrown into the jug.

My next port of call was Indianapolis. The Big Four also operated out of there. I decided I'd give them another chance at my valued services so I hired out as a brakeman once more. This wasn't a bad job. We'd leave Indianapolis with a caboose hop, gallop out to a place called Nigger Hill and pick up a slug of boxcars. These we'd take over to Terre Haute and tie up. Next day we'd return to Indianapolis. About six months after going to work there—my usual length of service, it seemed—the Big Four decided to move our terminal to Nigger Hill. That setup didn't appeal to me at all. I'd grown kind of fond of Indianapolis or, rather, of a dark-eyed hasher who worked in one of the beaneries where I ate. I didn't want to be parted from her. So I resigned from another railroad job.

Shortly thereafter the romance cooled and I drifted over to Alton, Ill., where I got a job working for the Illinois Glass Company. Like my term as steam fitter this glass factory job grew old darned quick. I decided to put some miles between myself and Illinois, so I headed for Kansas City, Mo.

In a next instalment I'll try to tell you about how I threw the wrong switch and knocked a Union Pacific super out of bed in his private car. And how I saw over $3,000,000 in hard cash stolen from a mail train out of Council Bluffs, Iowa.

(To be continued)

CHAIRS AND SLEEPERS

EXCEPT for the word *driver,* possibly no two terms mean "railroading in England" to foreigners as do *chairs* and *sleepers.* In many ways this emphasis is right: it focuses attention on British Railways' permanent way. Meticulous upkeep of roadbed, century-old stone viaducts, bridges, cuts and tunnel ramparts are an old story to Britain's 658,000 railway employes, a pride handed down from builders who experimented in iron roads as early as 1825.

On January 1, 1949 British Railways entered the second year of nationalization. Its biggest problem is reconstruction and replacement in a high-cost market. Still the average Britisher regards his railroad just as the average American does his—the system that delivers the goods.

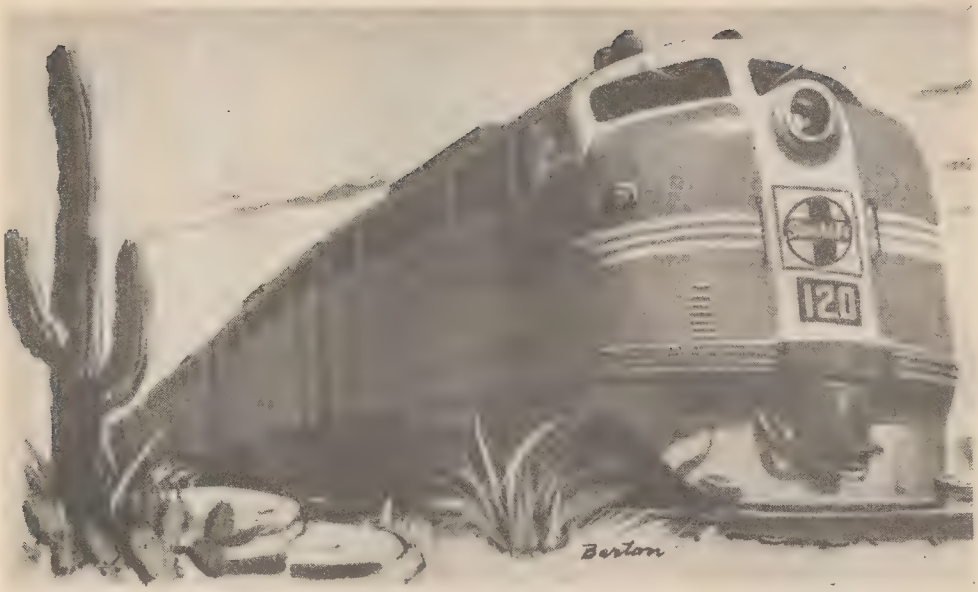
Workmen at Crewe Shops put finishing touches on *City of Birmingham.* First *Pacific* of this Coronation Class registered 114 mph.—British record—on trial run from Euston to Crewe in '47

Sturdy tankers power local and branchline trains everywhere in England, weighing up to 90 tons and carting 4½ tons of coal, 2600 gallons of water. Tanker, *above*, steams into rural town in Devon

Slender arches of Folkestone Viaduct lift rails between Charing Cross and Dover 100 feet above the valley floor. To avoid many ups-and-downs, Britain also maintains 63,104 bridges and 1049 tunnels

Right: Branchlines in Devon follow the line of the sea. Two-tiered stone walls protect the right-of-way from the pounding of the waves

Below: London's Euston Station, one of 6000 passenger terminals. Pileup of goods is only normal; railways own and operate 670,000 freight wagons in addition to 585,000 privately-owned vans



EXPERIENCE

By WILLIAM L. ROHDE

BRODERICK'S fireman looked across the cab at him as they eased the new red and yellow Diesel to a stop at Canyon Tower.

"Hey, Ken," he called, "you forget to whistle for the passing siding?"

"Nope." The engineer twisted his two hundred pounds out of the green leatherette chair on the left side of the cab and slid open the door of the engine, still shining and unmarred by the hundreds of men who would eventually clamber through it. "We're not taking the passing siding. We're going to meet the *Pioneer* at Eagle Rock."

He faced inwards and stepped out the door, dropping from sight down the ladder like a sailor disappearing down a hatchway. The slim fireman, Clark, stared for a moment, his thin lips gone slack, and then he leaped to the door and scrambled down the ladder to where Broderick was standing in the fresh air of the desert morning. The hogger had lighted a cigar.

The fireman kept his tone low, almost deferential. "Say Ken, we've got one hundred cars behind us; it's forty miles to Denver." He dragged an employes' timetable from his pocket and fluttered the grimy pages. "The *Pioneer* leaves Denver in ten minutes; you can't pull right out in her face!"

Broderick coolly twisted the cigar between his lips and laid a gentle hand on a journal housing. It was perfectly cold. "We'll clear the *Pioneer* at Eagle Rock by an extra ten minutes above the time required by the rules." He turned and looked meditatively back along the snake-like body of the train, watching the tiny form of a car-knocker in the distance as he ran along, inspecting brake rigging and journals.

Clark followed his engineer as he sauntered back beside the gleaming hull of the four-unit Diesel, gathering his words carefully. "You're saying you'll pull out on single track against the *Pioneer*; which is

The head brakeman raced along the tracks with flags and torpedoes—just in case

eighteen cars of lightning coming at us out of Denver! What's the matter? Has that fat-necked trainmaster, Riley, finally cracked you?"

The engineer looked stolidly at his fireman, the dark thundercloud around his wide black eyes dangerous, but not threatening. "Let me remind you, Pete, that we still have the best part of an hour on the *Pioneer*. I intend to pull into Denver at three o'clock exactly, which will surprise Mr. Riley and the brass above Mr. Riley, being the first time PD-4 *has* arrived on time."

Ken Broderick climbed into the cab as the fireman groped for words. It was all very well to start for Denver, but where would they pass the *Pioneer* on single track? The siding at Eagle Rock was rated for a 100-car freight, but since the advent of 50-foot cars no engineer had taken over ninety cars into the Eagle Rock siding.

"Let's go, Mac," Broderick was talking into the high frequency phone, "and thanks for going along with me. I won't let you down."

The conductor in the caboose on the rear end of the train must have made a feeble protest. "Don't worry, Mac," Broderick soothed, "I practically counted 'em personally." He flipped the transmitter switch off and whistled in the flagman.

PD-4 eased out of Canyon Tower, her motors roaring like a squadron of B29s, the hammering of her cylinders beating in the engine-cab with a rising crescendo.

Fireman Clark sulked in his padded chair, watching the buff coloring of the desert change its hues up the scale of the morning. It was probably his last ride, he reflected, but he was not going to plead with Broderick any more. He liked the big engineer, and Riley should not have tried to rawhide him with every minor infraction that he could heap upon his head. Still it was a doubtful way for Broderick to show off, bouncing into the face of a fast passenger train.

"Still got forty minutes on her, and there's Eagle Rock!" Broderick's call jolted the fireman out of his reverie.

Clark straightened up in his chair as though he had received a charge of high

voltage. "Then why are you going by the switch!"

He was about to try to take over the control side of the cab by force, when the radio receiver squawked and the voice of the conductor broke in.

"Pinch her well down, Ken. I can see the lead switch of the passing track. How does she look to you? Say when."

The engineer peered through his window as they passed the end of the siding where its track bent in to rejoin the main line at a trailing switch. "Now, Mac!" he shouted into his transmitter as they passed the derail a few feet back from the switch itself.

"Ouch!" The comment from the receiver was slow . . . and scared. "We're about a carlength too long on the main line! We can't get into that siding!"

Broderick applied more air as they began to drift along the down grade leading from the Eagle Rock siding. "Keep cool, now, Mac," he purred into his mouthpiece. "Let me know when you've passed the switch and Willy has bent her. Say when."

Pete Clark twisted uneasily in his seat. So that was the plan. Broderick and Mac had cooked up a scheme to show themselves up before the officials above Riley as a pair of smart railroaders. If they got away with it— He tried to think . . . was there a rule preventing the operation? He glanced at his standard watch. They still had thirty-one minutes on the *Pioneer's* time. It was still a feasible move, merely that no train crew had dared try to make a meet at Eagle Rock for years, for although the passing track was rated for 100 cars, the men on the road knew that the siding's capacity had been figured when average carlength was much shorter.

"Back her up, Ken." The conductor's voice boomed from the speaker with a note of urgency.

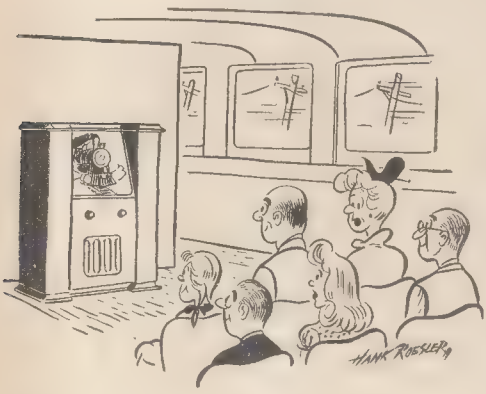
Broderick coolly began the long rearward movement into the siding. Pete gazed through the forward window for a sign of the *Pioneer,* then looked back along the train. He told himself to cool off, they still had time on the *Pioneer*. But what if a car missed the switch? Any slight casualty now would mean the end of all of them, if they weren't headed for the gate already. He glanced forward again to where the head brakeman was racing along the track with flags and torpedoes . . . just in case!

The engine approached the siding switch and eased past it into clear, and as she cleared the derail Pete hit the ground and threw the iron for the main. He could hear Broderick's voice as he ran back to the cab, "All clear and locked up, Mac."

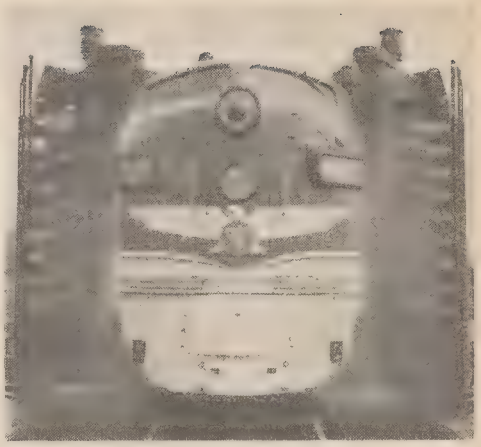
Tensely Clark waited for the moan of the receiver. Would Mac find the caboose projecting from the rear end of the siding onto the main line? Or had the accumulated slack, now so tightly compressed along the entire train, and the slightly greater length of the siding track than the same footage along the main, enabled the train to squeeze in? Were they fired or had they pulled off a move that, while subject to censure, was legally unassailable?

The conductor's voice filled the cab. "We're in, Ken. We've got at least six feet to spare to the derail!"

Broderick's booming laugh drowned out Mac's further remarks as Clark collapsed into his chair with relief.



"I know it's television—but it still makes me nervous . . ."



MOPAC TRAIN WASHER

That well-groomed look is as important to streamliners as streamliners are to the modern railroad. In St. Louis, Missouri Pacific and the Pennsy operate that city's first car laundry, polishing trains like the *Texas Eagle* between trips. Moving through 220-feet facility at 2 mph., each car is doused with 248 gallons of detergent and rinse water. More than 200 cars are cleaned daily at an average of 90 seconds per unit

SHAKER HEIGHTS

THE sole survivor of fast electric railways in the State of Ohio, is the rapid transit trolley line running from Cleveland to suburban Shaker Heights, once a religious community but now a typical midwestern residential area. Although operating converted city cars, interurban cars from now-abandoned routes and the latest design of speedy PCC cars, the Shaker Heights Rapid Transit is in a class of its own. Instead of being constructed to connect and give transportation to established communities, this route was a definite part of a land development scheme, and the City of Shaker Heights was laid around the railway line, just as had been planned by the two Van Sweringen brothers, Oris and Mantin, who purchased the original 4000 acres from the Shakers.

The answer to why this overhead trolley line did not follow the pattern of so many others which have disappeared from the scene, but instead, is still growing with leaps and bounds, has new, streamlined equipment in service, and is the model for other planned rapid transit routes in Cleveland, can be found only in the history of the road from the time the Van Sweringen brothers first planned it, to the present day when it is unquestionably the finest example of surface rapid transit.

One of the earliest ventures of the Van Sweringens, the transit plan was first conceived when these men found themselves in possession of

Cleveland's Mayor Van Aken, *right*, backed the city's purchase of SHRT in '44. With him is Paul Jones, Director of Transportation

MU train speeds along SHRT right-of-way bound for Cleveland. With new equipment, line boasts traffic capacity of seven 4-lane superhighways

8000 acres—they had added to the original 4000—in the small suburban community six miles east of the center of Cleveland. This was just after the turn of the century, and long before the Van Sweringens became railroad magnates of renown. At the time Shaker Heights had a population of only 1800 persons, but the Vans foresaw a vast development of the entire area, beyond the Heights, in the generally southeastern direction of Youngstown, O.

Along with the land development, they conceived the plan for a railway line to serve the Heights and beyond, if necessary, and to connect their land with downtown Cleveland along a right-of-way through the valley of the Cuyahoga River, and terminating in the vicinity of the Public Square, heart of the business section of Cleveland. To this end, in 1907 they obtained a charter for the Cleveland & Youngstown Railway. While the possibility of a line to Youngstown must have appeared quite remote, the builders realized that ordinary stop-and-go streetcar service would never attract buyers of land, and with this in mind, they surveyed the route along private right-of-way through the valley into downtown Cleveland.

The land was developed in conjunction with the planned railway line. A 90-foot railway area was allowed through the center of the property, with 50 feet of open space on each side of tracks, thus giving ample room for four tracks, if needed,

Car 303 at Shaker Square, first stop outside Cleveland. Once AE&FR equipment, these trolleys are slowest on the line, slated for retirement soon

and for an attractive grass plot on each side of the track, separating it from the boulevards. At the time the Moreland section was developed, the layout of streets in that section was so arranged that there would be a grade crossing only every one-third mile. This minimized the danger of accidents, and reduced the number of stops to a maximum of three to the mile.

Before construction got underway, the Youngstown plan was changed and the railway line was given the name of the Cleveland Interurban Railroad Co., a subsidiary of the Van Sweringen Company. The first contracts for the work on the railway line were let in 1914, but the intervention of World War I, with its high prices and restrictions and scarcity of materials, delayed completion. By July, 1919, the road was sufficiently completed to allow the first inspection trip, which was made on flatcars.

With rolling stock consisting of four Cleveland Railroad center-entrance cars refitted for fast service, the new line began operation on April 11, 1920. The trainmen, power and overhead maintenance, as well as the rolling stock were temporarily furnished by the Cleveland Railroad. At the start, the line did not terminate as it does now, in the lower level of the imposing Union Terminal building, for this building was not then constructed. The Vans planned, however, to gain an underground entry into the building once it was completed. At first the cars ran from Shaker Heights, down through the valley on private way to East 34th Street, Cleveland, where they branched off onto the city streets, continuing down to the Public Square north on Broadway, to East 9th and then in to the Square on Superior Avenue. At the east end, the road terminated at Moreland Boulevard, the present end of the Moreland Branch. The original end of the Moreland Division was a plain Y at Lynfield. This is the second last stop now. It has a nice stone station, with agent. Moreland didn't have yards at the end before the terminal was completed. All cars were stored at Kingsbury Run. When the extra 15 cars came from the Cleveland Railroad in 1929-30, the Moreland line was extended about a half mile to Warrensville Railroad, adding the new yards also. The odd U instead of a loop or Y, is to facilitate parking for suburban patrons. The other easterly end of the line, which runs somewhat in the shape of a Y, is at Green Road. Work on this portion was not entirely completed when the first car ran.

The Cleveland Terminal building was the natural terminal of the new line. With all of its facilities, stores, offices, and railroad terminals, there still remained space in the lower level for interurban and rapid transit cars on June 28, 1930, the day when the Terminal building opened; for years vast plans had been made for transit lines to emerge from the building to all parts of the city and suburbs. Talk was loud and continuous, but unfortunately not a single line, with the exception of the Shaker Heights route, came into being. It was the Van Sweringens who, after unsuccessfully dickering with the New York Central for entry into the Square on private track, finally bought the Nickel Plate track for their transit route. But by the time the first Shaker car

reached the downtown Terminal building on July 20, 1930, the vast Van Sweringen empire was beginning to crumble. Soon the local banks took over as security for the investments of the two brothers.

Once the entry directly into the Terminal building was made, bringing Shaker Square, 6 miles away, within 10 minutes of Cleveland Square, the value of the Cleveland Interurban, as it was then known, could be fully realized. The 30-odd cars which the CIR had bought from the Cleveland Railroad were hardly enough to serve the traffic, even when run during busy hours in 5-car trains.

The year 1936 saw 6 cars added to the equipment. These were obtained from the Aurora, Elgin & Fox River Electric of Illinois which ended passenger operations in the same year. Several Cincinnati lightweight cars from the Lexington Ry. System were also acquired, but these were never placed in regular service, and ended up on the scrap pile, their parts salvaged for the other cars. In 1940 six more Cincinnati Car Co. lightweights built in 1929 for the Indianapolis & Southeastern interurban line and later sold to Inter City R.T. of Canton, O., were added.

Storage yard at Moreland Terminal with trippers taking the afternoon sun before hustling downtown for the evening crowd. PCC cars now perform the heavy-duty services, can be coupled up to 6 units

BELOW the main floor of the Cleveland Terminal building, nearly a dozen tracks lie adjacent to the station platform of the rapid transit line to Shaker Heights. Leaving the Terminal, the line operates underground for only a short distance, coming into daylight right next to the electrified Cleveland Union Terminal tracks. In rush hours cars and trains arrive and leave one after the other. Off-hour headways are half-hourly on Shaker with 1-man cars to 15 minutes on Moreland with 2-man cars. The reason is that Moreland zoning laws permit small homes and apartments, while Shaker is very exclusive, with very large homes, running up to $75,000 and more. Most Shaker riders walk or drive from districts several blocks from Shaker Boulevard itself.

For the 6 miles to Shaker Square, the route is entirely on private right-of-way along the valley of the Cuyahoga which bisects the eastern portion of Cleveland. There are no grade crossings before Shaker Square station. Trains pass car barn and shops on the right side, all of them modern, brick buildings. Station stops are infrequent and there is a continuous grade from the Terminal building in Cleveland to Shaker Square. It is this grade which causes a difference in time to and from the Terminal. Inbound expresses take only 9 minutes; inbound locals 10. Outbound expresses take 12; locals 13. Six miles in 9 minutes, including

4 curves with a 30 or 35 mph. reduction is very good. Inbound express trains average 40 mph. from Shaker to the Terminal. The cars are equipped with a heavy motor, to sustain their speed upgrade to the suburbs.

As the track leaves a deep cut to enter Shaker Square, the grassy reservation on both sides of the rails makes a very attractive setting, in keeping with the cleanliness of the high-grade stores and buildings in the center of the Square. Since cars going to the Moreland terminus and Green Road terminal both serve Shaker Square station, it receives frequent service, with 5 and 10 minute headways during off hours, and in rush hours, an almost continuous stream of cars and trains. About 500 feet east of the station, the two branches diverge, the Moreland cars turning to the right and running in a southeasterly direction, while the Green Road cars continue to move along the reserved strip of grass separating Shaker Boulevard lanes.

The entire City of Shaker Heights is modern and exceptionally beautiful. Strangely enough, the rapid transit serves a territory where the residents own one, if not two, automobiles, and proof of the electric service is the number of these people who leave their cars at home, or park them in the large lots provided by the transit lines, to make the quick rail trip into downtown Cleveland. The key to this service is the speed with which the cars get to the downtown Terminal. The entire 9½-mile run from one end of the line to the other is made in 22 minutes, including 16 stops enroute. From Shaker Square, the 6 miles can be covered nonstop in 12 minutes, but cars making the few intermediate stops take 13 minutes. There is no known transit facility which could make better time between these points.

The climax of existence of the transit line, thus far, took place in 1944 when the banks which controlled the line offered it for public sale. Realizing the value of the route, the City Council, led by Mayor Wm. J. Van Aken, purchased the property for $1,300,000. Thus the future development of the route was assured. Paul Jones, a former Northern Ohio Traction man, who had been assistant superintendent, was made director of transportation and has proved one of the most capable men in the transport business.

Boomer trolley No. 60 at Green Road Terminal, 9 miles from downtown Cleveland. In background is loop at end of SHRT trackage

Jones saw the need for new cars to replace the old ex-Cleveland center-door equipment, and immediately went to work to modernize the old cars or buy new ones to replace them. Jones favored the 1940 Brill-built design of Philadelphia Suburban's 1-10 series, but found that Brill was no longer interested in constructing such cars. So, after investigating the PCC cars at Pittsburgh, and after testing a new PCC car designed for Boston, he chose the PCC-type cars with multiple unit equipment. Arriving on June 14, 1946, from Pullman-Standard of Worcester, Mass., the Boston m.u. PCC was tried out on the Shaker Heights line for 10 days. As a result, an order for 25 of these cars, modified to suit SHRT demands was placed, eventually brought the best in modern transportation equipment to the line.

Fares on the road have not risen in comparison with the service given. The 15-cent fare to downtown Cleveland now in effect compares very favorably with the 12-cent Cleveland Transit rate, which also rises to 18 cents on express cars. Be-

fore the recent change of rates on SHRT —the first rise was at the time of entrance to the Terminal—the regular fare was the same, 15 cents, but it was possible to buy 7 tokens for 1 dollar, or a weekly, unlimited pass for $1.50. The rapid transit has been remarkably free of labor difficulties, the last pay raise for trainmen was 8 cents an hour, retroactive to April, 1948.

Although this line was planned as far back as 1907, unlike Cleveland's other rapid transit routes, it has made little news due to bad finances. Cleveland Transit System recently asked for 31 million R.F.C. dollars for the purpose of financing extensions into the east and west parts of the city. The East Side line was laid out and partially graded by the Van Swerigens years ago. It leaves the SHRT track at East 60th Street and would need only a few months' work to begin operating in the immediate future. Whether Cleveland will ever be able to finance the completion of this 40-year-old project remains to be seen.

Extensions of the Shaker Heights route are not entirely out of the question either. The line beyond Green Road has been graded to Gates Mills, and steel poles erected part of the way. This was done years ago in contemplation of the day, which appears to be coming closer, when the population concentrates farther out of the city. The Moreland line is graded as far as the Thistledown race track, and is only awaiting an increase in home-building in that section. The Van Sweringens were responsible for the planning of these possible extensions.

Today, the Shaker Heights road is an efficient means of transportation under the conditions which exist in the territory it serves. In its construction there were no expenses for subway or elevated structures. The steam road trackage that was available was utilized, and simple trolley wire overhead was erected (today it is compound catenary out to East 55th Street) so that cars could be utilized from the Cleveland city lines. Signals were installed to prevent accidents, and the grade crossings were well spaced. Snow has no effect on operation, for even when the local bus and trolley lines in Cleveland are completely bogged down, as they were in the winter of 1947-8, the SHRT rolls on schedule.

As we have mentioned before, the line is hardly an interurban. It no longer traverses city streets at any point, and runs from one large city into the suburbs alone. But it does look like an interurban, especially along its wide reserved track through Shaker Square, with one of the fast 60-series, ex-Indianapolis & Southeastern cars speeding along the track. For speed alone, these cars are the best on the system. Only the 60s can make over 40 mph. up the grade. The old 1200s keep an even pace of about 25 mph. on the grade, but run up to 55 coming off the Pennsy overpass near East 45th Street. Balance speed of the 1200s is 45; that of the 300s is about 40, or less; 60s average about 55. They naturally go over these speeds coming down the hill. Almost all motormen have made the express run from Shaker Square to the Terminal in 8 minutes flat. Frequently, a delay is encountered at the Square loading the

Roster of SHRT Equipment

No.	Builder	Year	Former Owner
1-32, 36	Kuhlman	1914	Cleveland Rys., city cars
53-55	Kuhlman	1914	Cleveland Rys., trailers
60-65	Cincinnati	1928-9	Originally I&S; sold, 1932, to Canton, O., ICRT
70-94	Pullman-Standard	1948	Purchased new
300-306	St. Louis	1923	Aurora, Elgin & Fox River

Non-revenue equipment consists of ex-Northern Ohio Traction & Lt. cars, freight motor 78, line car 101 and flat car X-12.

huge crowds. The 600 formerly carried smoking compartments at the rear, but these have been removed and a pair of seats added, increasing passenger capacity by 4.

It was largely through the work of the Van Sweringens' Chief Engineer, W. E. Pease, that the SHRT was planned. It can only be hoped that the City of Cleveland and other metropolitan areas can take a lesson from the SHRT example, and design their future transportation along the same efficient lines.

Carbarn Comments

Steve Maguire

IT SEEMS important to point out at this time just what's going on in Milwaukee, Wisc. For some months we have been receiving reports of various plans for transportation in that city and most of them can be summarized by the following statement of Robert Heglund, 1213 Grant St., Waukesha.

According to Mr. Heglund, a firm of consulting engineers, who recently examined the traffic situation, urged that most of the remaining streetcar routes be abandoned to trolley buses. The only lines retained would be those in the vicinity of the rapid transit line to Waukesha, as far as West Junction. One of these routes services the huge Allis-Chalmers plant at West Allis, the other runs to Wauwatosa, a residential area. PCCs were recommended for these lines and on the rapid line to West Junction, over which Waukesha interurban cars now operate.

With regard to the Waukesha interurban line, it is owned at present by the Northern Greyhound lines, which favor abandonment and replacement by their buses. The residents of Waukesha and towns along the route have vigorously protested such a plan for inferior bus service, however. To date it is an open question whether or not the program can be pushed through.

There is still another court of appeals for price operation. Heglund informs us that one John C. Steinmetz of Atlanta was reported as having purchased the line from the Greyhound. Steinmetz, he says, bought the line "to operate it," and expressed a desire to substitute PCC cars for the big interurbans now used. "In order to make a go of it, the line will require more riders and higher fares," declared Steinmetz. "I'll have to ask for a fare increase and will do all that I can to get more riders on the line."

Sounds interesting, doesn't it? No one questions that the fares are too low at present, nor do they question the fact that the present operators have steered clear of any kind of publicity or advertising that would promote business on the interurban. Unfortunately, everything is not exactly the way Heglund and some others in Milwaukee believe it to be.

The Waukesha interurban line is of value to all citizens it serves—there's no doubt about that. But there are other interests which have their own subtle desires to own it. A bus concern in getting hold of the line could assure itself of a franchise for the traffic via the highway once rails were abandoned; that is, if they could push abandonment plans to completion. Others, too, might have designs in buying up railway lines: scrap dealers and commercial metal dealers. With the market for metal scrap as high as it was at the time when Steinmetz started the purchase plans, Milwaukee's electric equipment would have been a gold mine should abandonments have been completed. Steinmetz, it will be recalled, was the individual who junked the Atlanta Northern only a year or so ago.

When last we heard about Steinmetz—after the junk market had taken a tumble—he was trying to reclaim his deposit on the contract. Just where he could have raised the $375,000 purchase price has never been disclosed. But to our knowledge Steinmetz was not a particularly wealthy man. We wonder if there wasn't

some commercial metal company somewhere in the background? Wanta bet!

The city fathers of Waukesha and other towns along the route would do well to take a lesson from the City of Shaker Heights, Ohio. They, too, were served by a fast transit route, into the center of Cleveland in this particular instance. When the line was up for sale, instead of permitting some scrap dealer or a bus outfit to obtain it, Mayor Van Aken and the city council bought up the road, thus insuring its availability for their own residents. Today, it is a model of rapid transit efficiency. With new PCC cars in service it is actually making a good return on its investment.

We cannot overemphasize the present need for local interests to take over the Waukesha line. This would assure its continuation and improvement. Readers in Milwaukee and vicinity should try to promote such a plan. With proper fares, the line could make money, and at worst, it has an excellent scrap value. If you doubt that, ask Mr. Steinmetz what his scrap survey showed it to be worth!

* * *

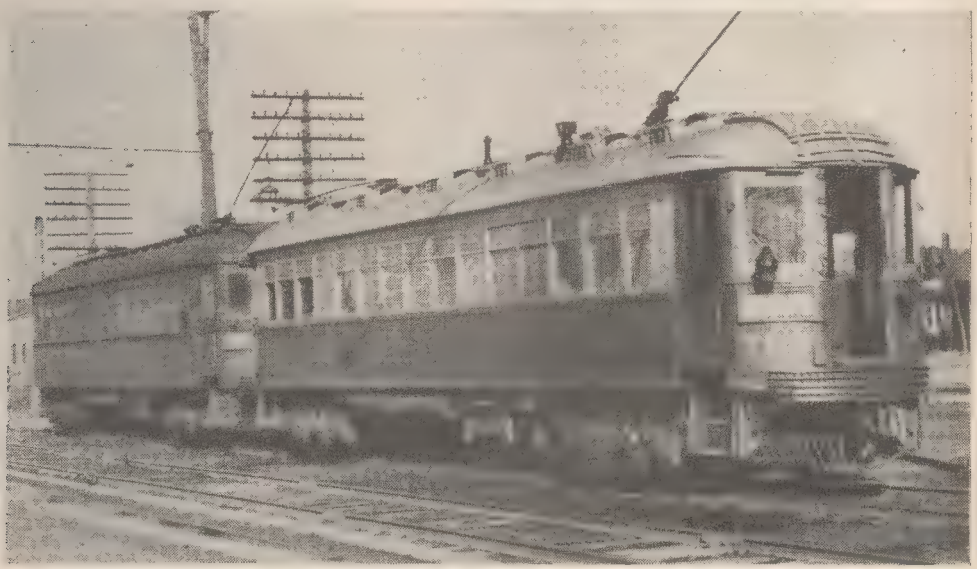
A SIMILAR problem besets the towns along the Shore Line route of the North Shore Line, now that the Chicago, North Shore & Milwaukee has applied for permission to substitute buses for interurbans along 21.22 miles of track between North Chicago Junction and the Linden Ave. elevated station in Wilmette, where the CNS&M joins the elevated. The unfortunate strike on the North Shore last year cut deeply into revenues, and even with raised fares this year's income on this route has not met operational costs. Many passengers who used the competing steam trains during the strike never returned to the interurban.

Although the Skokie Valley line earned a good profit, North Shore claims it is losing too much money on this line. For some time now the towns along the shore have been trying to work out some means by which rail service can be retained. From last reports, nothing definite had been agreed upon; there was a very slim possibility that the Chicago Transit Authority would take over the route and operate it out of Chicago. Our thanks go to David Butts, Mundelein, Ill. for much of this information.

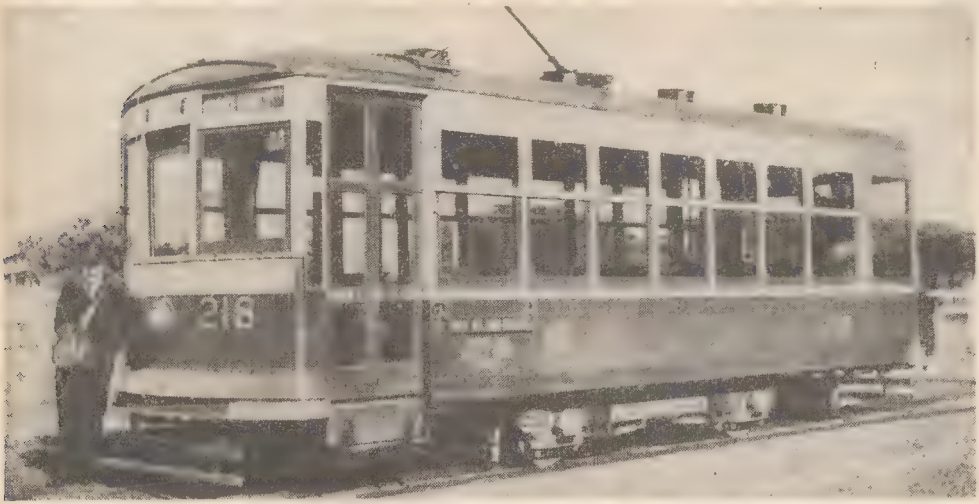
* * *

RECOMMENDED railfan reading of recent date includes two publications of the NRHS Connecticut Valley Chapter.

Shore Line's *Waukegan Express* stands idle on side track in Waukegan. CNS&M hopes to substitute buses for this 21-mile interurban route



One is a very exhaustive history of the Haverhill & Amesbury Street Ry., written by O. R. Cummings, an outstanding authority on northeastern Massachusetts electrics. There are some very excellent old-time views, maps and a roster of the road included in the 12-page brochure. The other publication is of interest to steam fans—an 8-page brochure on the once-famed New Haven Air Line. Issued in connection with a recent fantrip over the route, its illustrations include views of the



Birney 218 is one of two single-truckers servicing the Point Ormond line in Victoria, Australia. Entrance on left-hand side of car is standard design

Lyman viaduct and the Ghost Train. We do not know the price of these bulletins, but information can be had from Roger Borrup, Warehouse Pt., Conn.

From Australia comes an interesting monthly publication for juicefans, *Tram Tracks*, the official journal of the Australian Electric Traction Assn. Each well-illustrated issue covers news of Australia and New Zealand electrics, and the yearly subscription amounts to $1. Address communications to Traction Publications, 29 Seymour Grove, Brighton Beach, S. 5, Victoria, Australia.

Newest issue of the *Marker*, publication of NRHS North Jersey Chapter, features the Middlesex County Division of Public Service Ry. of New Jersey. Its slick-paper pages contain some fine illustrations; price, 25 cents a copy. We are advised that several back issues of the *Marker* are available at the same price. Orders should be sent to Rudolph Wendeling, Roselle, N. J.

Marking the final run of the San Mateo interurban run of the Municipal Railway of San Francisco, the *Western Railroader* has featured the history of that line in its December, 1948 issue. Its eight illustrated pages will be a welcome addition to collectors of electric railroadiana. Those interested can contact Francis Guido, Box 668, San Mateo, Calif., for further details.

According to the *Western Railroader*, San Francisco's current plans call for an eventual roster of 499 buses, 348 trackless trolleys and only 236 streetcars. The streetcars will be reconditioned old cars, no new ones being purchased. Car lines to remain after 1950 will be Muni-routes B, J, K, L, M and N.

Although the San Mateo line has ceased rail service, much of its right-of-way will be retained for possible future rapid-transit development, according to Wm. S. Gorton, Jr., Box 1515, Stanford, Calif. "On one hand," says Gorton, "they talk rapid transit, on the other they abandon existing facilities that could be developed into the next best thing."

Market Street's 1229 posed at scenic point along San Mateo route

As we have said so often before regarding any news from San Francisco, when we see it we'll believe it. At the moment it appears that some rail abandonments will take place, and none of the anticipated PCC car purchases will be made.

* * *

NEW YORK CITY'S bridge trolley roads are going fast, writes Richard Kampa, 218 Flax Hill Rd., So. Norwalk, Conn. The abandonment of operations over the Williamsburg Bridge from Brooklyn last December is undoubtedly a forerunner of similar last runs for lines crossing the Brooklyn and the Queensborough bridge, two spans crossing the East River from New York City.

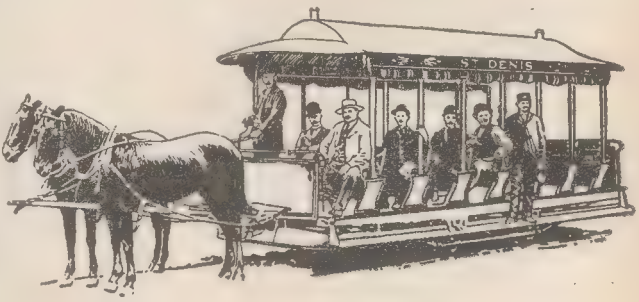
"Since the city fathers are planning to add two lanes for automobiles to the Brooklyn Bridge," writes Kampa, "the trolleys now using that bridge—including PCC cars—will have to terminate at the Brooklyn end, and the right-of-way over the bridge paved for autos. No one sees much future for the Queensborough Bridge cars, either. This company, a subsidiary of the Steinway Lines bus outfit, uses five to traffic the two miles between the Long Island City approach and the underground loop in New York City. As soon as facilities can be constructed so that buses can stop at Welfare Island, midway across the bridge, this line will go. At present the trolleys are the only vehicles which can make the Welfare Island stop. After leaving the trolleys, patrons for the Island have to take an elevator down from the bridge!"

After reading Dick Kampa's notes on the Queensborough Bridge trolley line, we went up to investigate, and were completely astonished at what we saw. Three second-hand cars were delivered by trucks from New Bedford, Mass., to replace older equipment in service on the bridge line. Apparently reports of the demise of this line were premature. We understand that, in all, seven ex-Union Street Ry. cars have been acquired. These were numbered in the 600 series and are still in good condition.

We did take a ride across the bridge on the old cars, and can readily understand why new equipment was necessary. The old ex-Steinway line's 530-series equipment is speedily disintegrating.

* * *

THE Electric Railway Society with headquarters in London advises us that its monthly publication, *The Electric Railway*, might interest American railfans. To obtain this 8-page illustrated monthly consult the Secretary, Electric Railway Society, 245/7, Cricklewood Broadway London, N.W.2, England.



They Called Him

WOOSTER

By W. V. ATHANAS

OF COURSE it's absurd to think that a locomotive has feelings and will perform better with kind treatment—but they do seem to recognize their masters. When certain engineers take hold of a throttle, engines will get down to business and produce for these masterful individuals than for any others. A good demonstration of this was what happened back in 1909, when master mechanics on the Galveston, Houston & Henderson at Galveston decided to change the boiler checks on yard engines from the side to the top of the boiler.

Galveston water was hard to hold in a boiler anyway. As soon as these checks were changed, it caused all the engines to foam so terribly that a number of the regular old engineers were ready to toss in the wad of waste. Then along came a young runner by the name of Wooster, who needed a job pretty bad. After explaining to Master Mechanic William Paul that foaming engines were his specialty, he was put on the board.

Now this young engineer had a wonder-

That engine was as active as a billygoat in a hay meadow

ful personality and a persuasive line besides. He drifted down from the north just ahead of the season's first snowfall when the wheat rush was in full blast and the GH&H yards in Galveston were so chuck full of boxcars that every available yard goat was putting in full time to keep the loads moving. Engineers and switchmen were in great demand and Wooster was assigned to a night yard engine for his first trip.

The hogger showed up for work wearing a big red bandanna tied loosely around his neck, while clapped on his head was a small black felt hat, the mark of a boomer in those days. He climbed aboard and went about his chores with a happy-go-lucky air, as though he'd been running one of these kettles all his life. Just before the switchman came down to herd him out into the yard, he gave her a good dose of boiler oil through his injector. After noting the fireman had only a scant gage of water showing in the glass, he called out, "Hey, Bud! I'd like to see a full gage of water in that glass all the time."

"But, Mr. Wooster," the fireman protested, "since the checks have been changed on these engines, they start foaming if we don't carry awful low water."

"Just let me worry about her foaming," the engineer replied laughingly, "but don't let that water get lower than a full gage, if you can help it."

An old head on the job, the fireman clammed up but he made up his mind right there that this smart alec would soon learn where these locomotives carried their water best. The switchman was soon herding them out to Number 1 lead, about the hottest lead this side of the old eastbound in St. Louis. Wooster took it easy for the first few moves, giving her a shot of boiler oil at intervals. Finally he seemed to forget all about being a new man on the job. That engine just seemed to know he was master and was as active as a billygoat in a hay meadow.

Every time the switchmen gave him the high sign, he'd come at them with all that engine could do. The yard goat didn't show the least sign of foaming, and he kept her barking up and down that hot lead all through the night. He made a big hit with the switchmen. "He may burn our feet getting off that footboard," they remarked "but we know he's coming head on when we give him the high sign." Wooster's slogan was, "Always obey the switchman's signals—if they say hurry up—give her all she'll take."

The hogger lived up to it, too, and those engines just didn't cut up in any way. They seemed to know whenever he was about and enjoyed scorching the switchmen's feet as well as Wooster did. Wooster proved to be a swell guy and soon won the respect of everyone. He was put in road service almost at once.

AT THAT time, the GH&H had a very small passenger engine, Number 84. The enginemen dubbed her "The Rabbit" because she was so swift with a light train. An oldtimer and too small for anything except emergency work, she was the worst steaming engine on the road and especially bad about foaming.

Now the M. M. had a weakness for big nozzles and to give Number 84 more power he equipped her with a nozzle about two sizes too large for her.

Whenever a regular passenger engine entered the back shops for a general overhauling, Number 84 took her place. As all engine crews were assigned to certain engines, the regular crew would be out of a job for as long as their engine was being overhauled. Once when the 84 had just come out of the back shop from a general overhaul with all new paint and shiny like a brand new engine, Jack Wilson took over to break her in on freight service. Jack was another guy who seemed able to speak a few magic words to an engine and she'd climb a tree for him. Yet somehow Jack wasn't doing so well with the 84.

She wouldn't steam but would start throwing water out her stack every time he'd widen out on her. This big nozzle was causing him and his fireman plenty of trouble.

To hold her steam up enough even to get over the road was a problem. Then one night going south—while switching near a foundry at Dumont—Jack saw a long piece of rod iron about an inch or an inch and a half thick, lying alongside the track. A happy idea struck him.

The engineer stopped his train, hit the cinders and picked up this long piece of iron. Climbing up near the stack, he steered the rod down in the nozzle. This choked the nozzle down enough to give the fire a better draft, causing No. 84 to steam better. But when he coupled onto his train again and started out, the engine began slipping and the fast exhaust brought this rod iron above the top of the stack.

This pipe had a goose-neck bend on the end of it. Each time the locomotive would slip, this goose-neck would rise above the top of the stack and whirl round and round like a whirl-a-gig in plain view of anyone watching the stack. Jack had to be mighty careful not to throw it too high, as it might jump out of the nozzle.

When the freight moved on to Genoa, it had a meet there with Number 10, an early

morning northbound passenger train. And who should drop off the varnish but the master mechanic. He had decided to ride back with Jack to see how Engine 84 was performing.

His presence put Jack under a terrible strain. When he'd start, he'd pull out that throttle very gently with both hands tightly gripped around the latch, and he'd grit his teeth for fear she'd slip and the rod would rise out of that stack. The master mechanic was very impressed with the performance.

"Seems to be steaming pretty good tonight," he remarked.

The hogger nodded absently. "Yep, got a good fireman," he said, never cracking a smile as he kept a steady gaze on the stack.

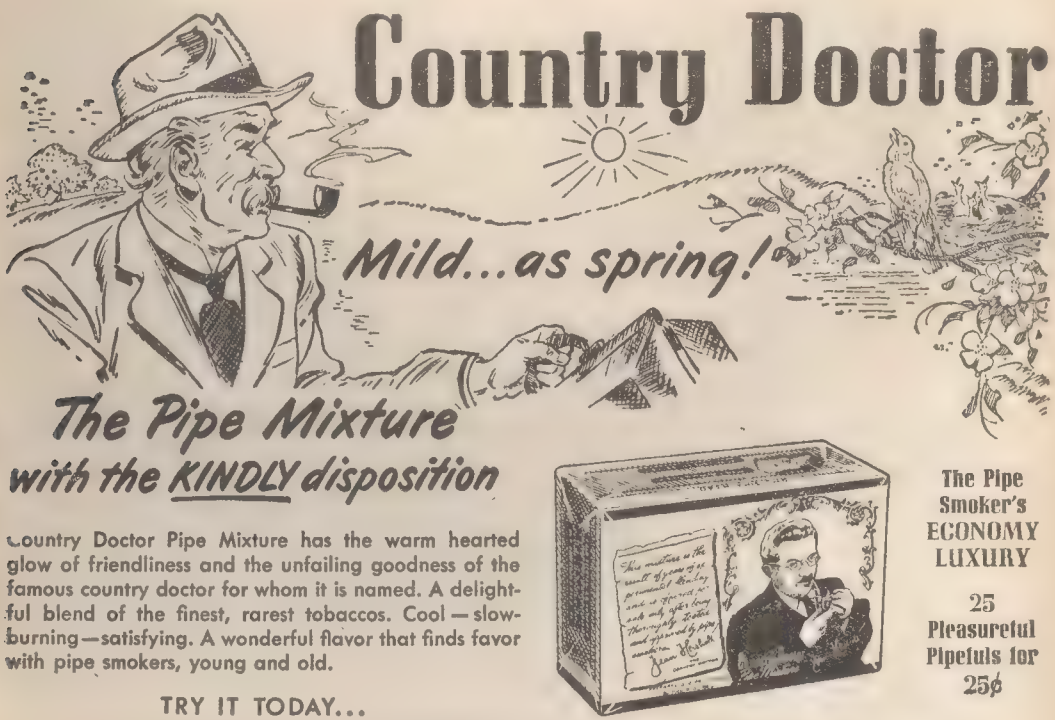
After he had them rolling pretty well and could hook her up a notch or two—to where there was not much danger of her slipping—Jack began to relax a bit. His visitor noticed the change. "Say Jack," he asked, "since she seems to be steaming so well, don't you think it's safe to let her come out on Number 10 tomorrow morning?" He paused a minute. "I'd like to get the 83 in the back shop as soon as possible."

"Lord, no!" Jack exploded. "I'd never attempt to come out on passenger with this engine until she's broke-in a little better."

"Well, Wooster is first out for this engine," returned the Old Man, "and he says if I'll let him take her out on Number 10 tomorrow morning, he'll guarantee me he'll go into Houston right on time."

Engineer Wilson turned his attention back to the road. "Mr. Paul, that man's crazy," he said. "He doesn't know this engine, therefore he doesn't know what he's talking about."

THERE was silence in the cab as Engine 84 rattled and banged its way toward Galveston. Finally the M. M. turned to the hogger. "Well, if he's so confident he can make it, and she's steaming better


Country Doctor
Mild...as spring!
The Pipe Mixture
with the KINDLY disposition
Country Doctor Pipe Mixture has the warm hearted glow of friendliness and the unfailing goodness of the famous country doctor for whom it is named. A delightful blend of the finest, rarest tobaccos. Cool — slow-burning — satisfying. A wonderful flavor that finds favor with pipe smokers, young and old.
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than ever before, I still think I should take a chance on him. You know that guy's got plenty of what it takes to get over the road," he added.

After that no more was said about what might happen if Wooster attempted to haul Number 10 out of Galveston with Engine 84. Jack, however, was worried. He knew better than anybody why the 84 was steaming. Besides, he was also worrying about how he would get the rod out of the stack if the M. M. went all the way to the terminal with him. What would happen if he had to leave it there and the roundhouse crew reported it to Pat Connelly, the roundhouse foreman?

Wilson knew Pat was a good fellow but a man of few words and full of action. He might not pass it up very lightly. And if they missed it, what would Wooster's reaction be if he discovered it on that passenger run? The hogger felt sweat come out all over him; he clenched his hand on the throttle. He had just about decided to have a nice quiet talk with Wooster, when the M. M. spoke up.

"Slow down and let me off at Dickinson, Jack," he called. "I'll catch the I&GN passenger train into Galveston."

What a relief! While crossing Galveston Bay Bridge, Jack climbed out along the boiler, hovered around the 84's stack, angling to fish out that long piece of rod iron.

This was no easy job on that bucking engine, but the grimly determined hogger finally got a firm hold on it. Out of that stack and into the bay went that long piece of rod iron, leaving behind it only a big splash.

At exactly 4:10 the next morning Wooster hauled Number 10 out of Galveston's Union Station with Number 84. At exactly 5:30 a.m., he made a regular service stop at the I&GN depot in Houston *right on time,* just like he said he'd do. He didn't have that rod iron in the nozzle either, nor did he ever know it had been there. Engine 84 seemed to know who was in the driver's seat.

This is no reflection on Jack Wilson, because there's a lot of difference in handling a drag of boxcars and handling two or three coaches. Wooster held that engine and run for about a month, until Number 83 came out of the back shop; then the 81 went in for a month, then the 82, and each time Wooster and his 84 handled passenger service. Wooster and his engine took on anything that came along and were running on time all the while.

Once in a great while they'd double him into something he couldn't make the time with. One Sunday afternoon in mid-summer, he pulled out of Grand Central Station in Houston with seven coaches on GH&H Number 7. Arriving at the I&GN depot, he shouted down to his conductor, W. L. (Shorty) Price, "Hey, Shorty, let me have a timetable, will you? I've none and I don't know the schedule on this run any too well."

"Timetable, me clinking eye," Conductor Price retorted. "Every time I give you a highball, you go—and go for all you are worth. You'll never get ahead of time, and you'll probably be plenty behind time into Galveston with that tea kettle."

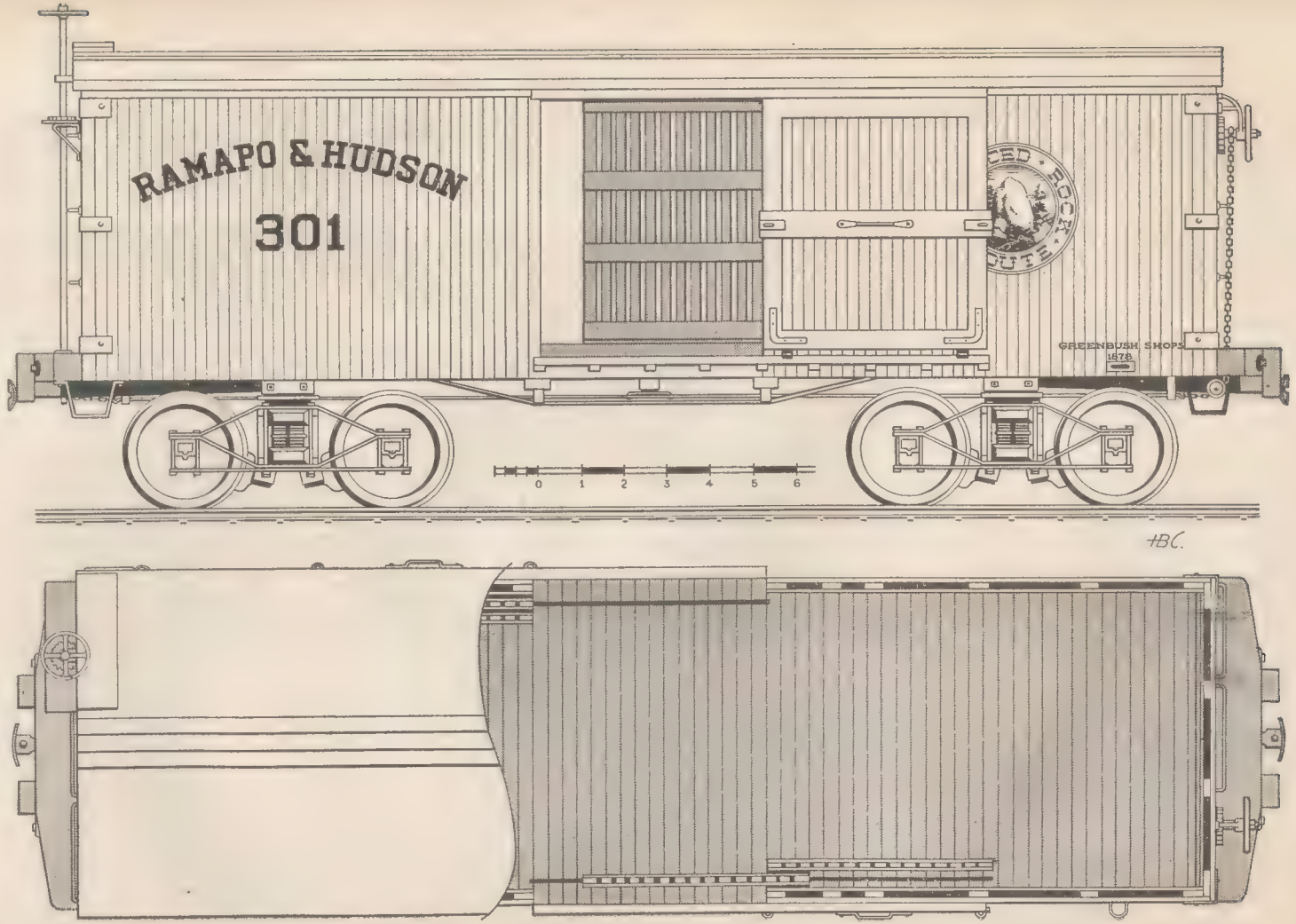
Wooster only grinned in reply as though he shared a secret with his engine. Price was mighty surprised to find they entered Galveston only seven minutes late. Still if a poor little engine ever got a beating, Number 84 really got one that day. She would do most anything for that guy, though, and the harder he'd maul her, the harder she'd work to go to town for him, it seemed.

Wooster stayed with the GH&H until Number 84 finished doing relief work and was put back in white lead. The young runner was too full of vim and vigor to waste his time fooling around on the engineer's extra board. He had made his stake and wanted to be moving on—he was the sort who wanted to go places and see things—so he pulled the pin and left to seek greener pastures. Each year thereafter, when the snow begins to fall in the north, the oldtimers begin looking for Wooster to return. But they've never seen him since.

Not in the Wheel Report

By JOSEPH EASLEY

"—Through the blinding storm the express with its precious cargo of human life hurtled on toward the wrecked bridge—as Bertha clutching the red lantern struggled through the deadly swamp, slipped and plunged into a bottomless—"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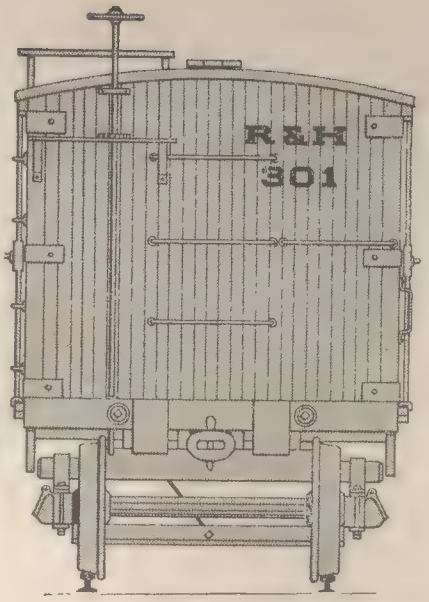


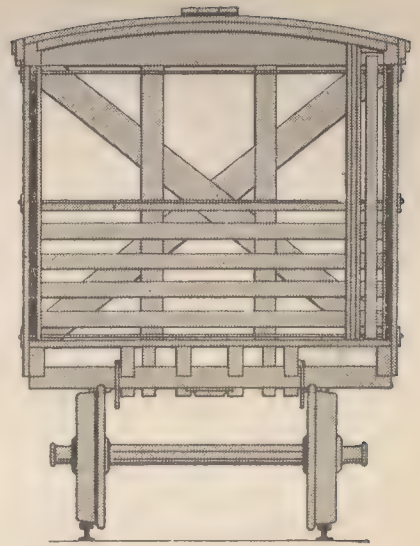
Oldtime CNJ Boxcar

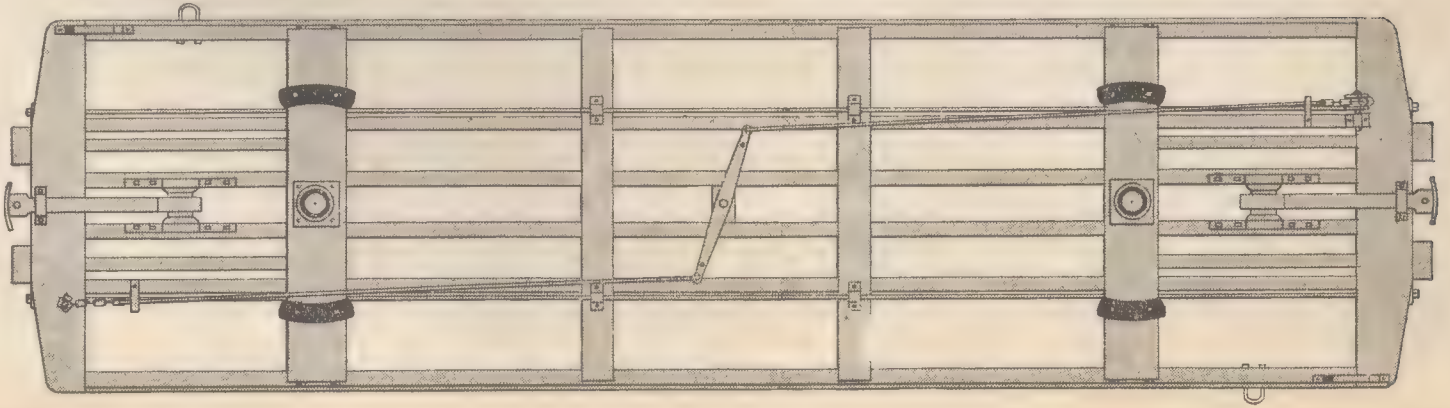
Distinguishing feature of this colorful Central Railroad of New Jersey 20-tonner are its arch roof and massive platforms, together with an interesting arrangement of end grab irons. For the super-detail fanatics there are inside rack doors with protecting bulkheads. Note, too, the switching eyes located near the right end of each side of the car. Before the days of poling sockets a switching rope was seized to one of these when the car was to be moved by an engine on an adjacent track.

Like most rolling stock of its day the CNJ box had a brakewheel on each end, one on a vertical shaft, with a rooftop platform, the other set on a horizontal shaft against the car end, where it could be reached from the end sills. This accounts for the car's having but one side ladder (upper left on the view looking down upon the roof).

Paint this little item chocolate brown with white lettering. The roof was gray and the undergear black. Next month: a tank car straight from Titusville.

The Nutsplitter





POTATO PIKE

By ALAN B. TODD

ONE of the high lights of Percy R. Todd's career as president of the Bangor & Aroostook was the completion of the international bridge at Van Buren, Maine. Crossing the St. John River at that point to St. Leonards in Canada, it gave a northern outlet to the BAR by direct connection there with the Canadian National mainline. President Todd had a long hard fight to convince financiers that his bridge would be practical but within a few years of its completion in 1914 his judgment was vindicated.

When we entered the first World War in 1917 the railroads connecting New England with the West were swamped with eastbound freight for export from Boston and Portland. Although these lines were double-tracked it was often necessary to use the westbound lines as single iron due to the blockade of the eastbound tracks with trains unable to get in to their terminals. The yards at Boston and Portland were plugged with cars of export war materials and empties that were urgently needed at western points for reloading with still more supplies for the armies

Quickly I slowed the train to follow the old plugs

in France. Yet everything stood still.

When our government took over the operation of the railroads the congestion was at its worst. Relief came with orders from the U. S. Railroad Administration, routing all empties from Boston and Portland over the Maine Central to the BAR, thence over that line and the new bridge to the Canadian National. This road handled them westward to points from which they could be sent to the various loading points in the United States. For the duration of the war, train after train of these empties made this circuit daily—a contribution to the U. S. war effort sufficient enough to justify Percy Todd's vision.

I recall that the ceremonies incidental to opening the bridge to traffic were rather elaborate. Officials of both the Canadian and United States governments were present and most of the eastern rail systems were represented by their ranking brass hats. Preparations for the event started days in advance. Low joints and high centers were carefully checked, station grounds cleaned up, windows washed

from one end of the line to the other—at least on the track side of the depots—and everyone working on the 230-mile stretch over which the special train of guests was to travel, put his best foot forward. Fireman Irving Eldredge and I were assigned to haul this train. We had Engine 141 which had been polished from pilot to rear coupler and made resplendent with a new paint job.

When the train came in over the Maine Central to Northern Maine Junction we coupled onto 15 private cars, the heaviest passenger train the BAR had ever handled over the entire system up to that time. I knew the 141 could manage them easily enough but when I learned that most of the cars had the then new P. C. brake equipment, I had some misgivings. The 141 had the old F-6 brake valve. However I set the feed-valve to a 90-pound trainline while pumping up the train for a brake test and then set the pump governor to 110 pounds' pressure. Pulling out of the station I made a heavy running test and got a good idea of the braking power of this new equipment. It was a revelation to me. Up to this time my experience had been limited to the old "high speed" triple valves which we considered almost the last word in airbrakes. Our schedule called for fast but not excessive speed and we arrived at Van Buren on time about 10 p.m.

The next day was devoted to the ceremonies of dedicating the bridge. It was formally opened by cutting a ribbon swung across the track, then came speeches by various bigwigs and an elaborate dinner at the Hammond House. It so happened that I missed most of it as Trainmaster Darling, Road Foreman Bill Dean, my conductor, "Mac" MacLean, and a few more of the lads got more interested in a little game of "quarter limit" poker in a back room of the Hammond House than in any dedication ceremonies. However, a few days later, Eldredge and I each received a letter of commendation from President Todd. I concluded that I had not made any noticeably rough stops with the new brake equipment.

Within a year or two, E. T. brakes, compound pumps and superheated steam had become commonplace on our engines, and the BAR had motive power as up-to-date as any road in the country. We also had plenty of engines in daily service that were old enough to have pups. I recall one little kettle used as a spare switcher at Searsport, and which I ran for a week or two when bucking the extra list. I believe it was numbered 300; at any rate, the builder's plate showed it was built in 1879 by the Manchester Locomotive Works. It was a 4-wheeled coupled saddletank engine and had the only 3-way brake valve I ever handled. One day out of curiosity, we filled the tank, loaded the bunker with all the coal it could hold, and put the little goat on the track scales where she tipped the beam at 41,000 pounds. We used her most of the time to weigh coalcars as they came off the dock where ships and barges from Norfolk were unloaded. This job was within her capacity but occasionally we had to handle boxcars and flats loaded with lumber. The engine cab was so low and the boiler so short that unless the switchman rode the top of the first car he could not be seen from the cab windows. "Win" Stubbs was conductor of our crew and his favorite stunt was to sit on the cab roof with his feet dangling down around my ears and call the signals.

UNTIL about 25 years ago, when concrete roads and automobiles became commonplace, the BAR had heavy passenger and express traffic. Then, as it is today, Maine was "Vacation Land" and in the summer months and through the fall hunting season passenger travel was especially heavy. The road ran excursion trains on all possible occasions at reduced fares which were advertised in all the local newspapers and by large colored posters in all the depots and other public spots. In the season Saturday excursions were run from Bangor, and occasionally from Houlton to Searsport, where deep sea fishing, salt water bathing, outdoor dancing and ball games were featured. The

annual visits of Barnum & Bailey and the lesser circuses to Bangor were incentives for the passenger traffic lads to run special trains from all points on the system. This traffic was surprisingly heavy, but the annual Camp Meetings at Dover easily led all other occasions for the volume of excursionists. On the final Sunday of "Camp-Meetin' Week" the road would run at least six excursions, including one from Fort Kent via the Ashland Branch and another from Van Buren, in each case a distance close to 200 miles. As all these trains were scheduled to arrive at Dover around 11 a.m., it meant an early morning start for families who had to drive several miles in the old fringed-top surrey to the railroad station. But in those days of the simple life excursion trips were gala events and folks enjoyed them. Whole families would climb aboard loaded with boxes and baskets filled with sandwiches, home-cured hams, hard-boiled eggs, home-made pies, and the cakes and cookies that were so much a part of a picnic menu. In addition to all these, every conceivable musical instrument would be brought along; as a rule there would be at least one cornet band from one of the larger towns. Enroute, there was never a dull moment nor a quiet one.

In the summer of 1913 I was called to haul one of the Camp Meeting excursions, running as Extra 93 from Caribou to Dover with 11 crowded coaches. We had no scheduled stops south of Oakfield but about 15 miles south of there I smelled something running hot, and a bad thump quickly developed on the left side of the engine. Suspecting a stuck wedge on a driver box I decided to keep going to Sherman, about 10 miles further south, where I could take water and locate the trouble. When we arrived there and had spotted at the water spout I scrambled under the engine and found the left front wedge stuck tight and the cellar packing smouldering. We had no spring wedges or grease cellars in those days and sometimes it was quite a tough job to pull down a sticking wedge. Conductor George Webberley came over to the engine, and I told him I would have to get the wedge pulled down and repack the cellar. He disappeared without saying a word, only to show up a few minutes later at the head of most of the Fort Fairfield Cornet Band. They immediately ranged themselves alongside of the engine and went into action. To the gay strains of *I'm Working on the Railroad, Casey Jones* and *The Little Red Caboose Behind the Train* I got the driving box in shape to resume our trip—the only occasion I believe, where road repairs were made to musical accompaniment.

One of these excursion trains figured in the worst wreck in the history of the

Gives hair that "just-combed" look all day long!

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road in the summer of 1912. The train was returning from Bangor to points on the Northern Division and had made a station stop at Millinockett. Engineer Garcelon planned a close meet with Number 8 at Grindstone, nine miles north of there, leaving himself about 14 minutes to get in the clear. But as it happened, he met Number 8 about 400 feet south of the siding switch on a sharp curve to his left. Between 30 and 40 people were killed, the wooden coaches being a big factor in the heavy loss of life. For some years after this Form 31 orders were always issued by the dispatchers for all meets; but this was almost impracticable when traffic was heavy, and in time was discontinued.

On October 23, 1915, I had a rear end collision within a few yards of the same spot, but fortunately no one was injured. I had been fishing for a few days near Millinockett and a friend drove me in from his camp on this Saturday so that I could get a train into Bangor. I planned to catch Number 4 due out of there in the afternoon, but hearing I was at the station, Dispatcher George Foss fitted me very nicely into a little plan he had cooked up. Engine 86, then at Millinockett, was sorely needed at Oakfield but Foss had no engine crew to get it there. Over the 'phone he told me he would give us a caboose bounce if I would run 86 to Oakfield and, since he had an engine crew in Oakfield, he would then deadhead me home to Bangor on Number 8.

I agreed, and got the engine ready, taking one of the lads working as hostler's helper to fire for me. Checking the register I saw that Extra 71 had left 40 minutes ahead of me. I got my running order and also one to meet Number 4 at Grindstone; my hope was to pass X71 there, as I could make much better time than they could. Going around the curve into Grindstone, I called to the fireman to keep an eye out for X71, although I had seen no signs of them on any of the straight stretches of track ahead of me. He sat on his seatbox looking ahead, not answering me.

Presently I saw a caboose about two car-lengths ahead around the curve. Wiping the gage, I rolled from my seatbox to the engine deck as we hit. The 86 had plowed through the caboose, splitting it and the car ahead of it wide open. Fortunately for them, Skipper George Clewley and his flagman were dragging a switch chain to a broken drawbar several car-lengths ahead. Engineer Boyd Warner had hauled his train about halfway into the siding to meet Number 4 when an airhose burst, resulting in a pulled lung. Clewley had asked the operator to set his semaphore, about a mile south of the station, to stop position leaving his flagman free to help him to chain up. For some unknown reason the operator, a relief man working in the agent's place that day, had neglected to do this. When Clewley heard my whistle at the station board he had every confidence his rear end was protected until he heard the crash. Some few minutes later when my flagman went back to protect our rear he saw the semaphore still in clear position.

The wreckage caught fire at once from the stove in the caboose but as there was little more than splintered wood for it to feed on the damage from it was slight. Aside from broken air pipes and a broken pilot the 86 was not damaged, although the engine truck was derailed. While Clewley was chaining up and getting in the clear, our crew got busy putting the engine truck back on the rail; then, with the engine and chains, we pulled the car trucks that were piled up on the track into the clear. The delay to Number 4 was less than an hour, which we all thought established some kind of a record for clearing up wrecks. Letting Clewley use our caboose, I doubleheaded X71 to Oakfield, and by some tall hustling I managed to catch Number 8 to Bangor. When we got to Millinockett I ran in the station office to pick up the nice mess of trout I had left there before boarding the 86; but they were missing. Agent George Brackett was not to be found either and he subsequently, and on several occasions, denied any knowledge of the missing trout. There's been a lapse of over 30 years since

then, but I still sometimes wonder why he picked that day to go home early, and just what he had to eat when he did arrive home.

ABOUT this time the BAR commenced to get delivery of several new engines of the 180 Class and our freight power

Demolition at Grindstone, Me. Author Todd rode into this rear-end collision—and out again safely—at the scene of the BAR excursion tragedy of 1912

was brought to a high standard. Sidings were lengthened, new turntables installed and the Medford Cutoff was abandoned for passenger service, its curve elevations being changed to suit slower speeds and heavier trains. In a year or two the little potato pike became a modern road in every sense. Except that it still remained a personal little system, by which I mean employes and officials knew one another intimately, and an unusually friendly spirit, unthought of on the larger systems, existed. Perhaps one example of this spirit will explain my point. The regular freight runs between Houlton and Northern Maine Jct. were split between Northern and Southern Division crews, who had Sunday layovers at their home terminals. These trains did not run on holidays and it was the custom preceding a holiday for the dispatchers to arrange their meeting points so that these crews could exchange their engines and trains in order to spend the holiday at home. It was this sort of thing that made a man feel an interest was taken in his welfare.

Another example of this occurred once when I was hauling a northbound drag over the Medford Cutoff. On our arrival at West Seboois I noticed Number 8 standing at the station. Guy Lawrence came running over to our engine to tell me to call the dispatcher in Bangor at once. The dispatcher told me that my wife had been injured in a trolley car accident there; he had arranged for me to leave my train and to come to Bangor on Number 8 which he had held over 30 minutes for me. I found out later that my crew and train were delayed over three hours, waiting for an engineer. Incidents like these made all of us, especially those who had boomed around, realize that working on the B&A was different.

Sometimes we had opportunities to show our appreciation. In January, 1917, I was running between Brownville and Greenville in passenger service, tying up

nights at Brownville. On one of the coldest nights of that winter Jimmie Page, my fireman, and I were roused out of our warm comfortable beds by Roadmaster Archibald. A freight wreck on the Maine Central had their mainline completely blocked between Oldtown and Mattawamkeag, and Maine Central Number 8 was being detoured between the latter point over the Canadian Pacific to Brownville Jct. From there the plan was to route it over the BAR to Brownville, then over our mainline to South LaGrange and from there over our branch to Oldtown. The Maine Central engine crew had never been over our lines and I was the nearest man to them who could act as their pilot. Would I consent to ride the Brownville Branch on a speeder; or better yet, would both Page and I go to Brownville Jct. on the speeder and relieve the crew on the engine of MC Number 8? We agreed to do the latter and with the wind blowing the drifting snow and the thermometer around 35 below, Archibald, Page and I started off on the six-mile trip on Archibald's three-wheeled speeder.

I will never forget that trip. Leaving the station about 1:30, we had not cleared the yard before we hit the first snow drift and from there on we alternately shoveled snow, pushed, and for what seemed very short stretches of clear track, rode the speeder. After over an hour of this the switch lamps at the junction came into view and, at last, with hands and feet numb from the bitter cold, Jimmie and I climbed into the warm engine cab and relieved Engineer Penny and his fireman. The conductor had orders for us to run extra to Oldtown and we were soon on our way. The drifts that had meant so much grief to us on the speeder were now merely incidental and in a little over an hour we pulled into the station at Oldtown and turned the engine over to the regular crew for the run into Bangor.

Had Page and I refused to take that trip to Brownville Jct. on the speeder we would have been well within our rights—certainly there would have been no reprisals from our officials—but it would have been a rather poor return on my part for the consideration shown me when I needed it.

In less than a year after this episode, Jimmie Page was laid in a soldier's grave, his name the first of those from his native town of Dover who gave their lives to their country in World War I.

He had bid in the Greenville run with me in November, 1916, and had fired for me but a few trips when we had an odd experience. After a week of intermittent snows the few country highways were pretty well blocked and the tracks on the Greenville Branch ran between two banks of snow several feet high where the plows had thrown it, except on fills or at places where the wind kept it blown away. One afternoon coming south on Number 124 and about two miles below Shirley, Jimmie yelled, "Hold them!" A curve to the left prevented me from seeing very far but by the time we got stopped I could see a team of horses plodding along ahead of us, hitched to an old farm sled with what appeared to be a heap of blankets piled on it. I blew the whistle several times but those old plugs kept steadily on and I followed them closely with the train. Meanwhile Jimmie got out on the pilot and when I stopped again he jumped off and overtook them. Stopping the horses, he found an old man sound asleep in the pile of blankets with a half-emptied demijohn of hard cider beside him. Finding it impossible to get more than a few grunts from the driver, and after a conference with the train crew, Conductor "Al" Lyford gave Baggage Master Nat Knowles the job of driving the team ahead of us until he found a place in the snowbanks where the outfit could be turned off the tracks. Unfortunately for our schedule this proved to be a point over a mile ahead and we crawled along behind them at a pace no faster than a slow walk. Finally Nat came to a break on a fill; he drove the team down through about four feet of snow and hitched them to a right-of-way fencepost. On our arrival at Blanchard we told the agent the story and the sectionmen had a job on their hands.

Checking up the next day, we were told the team had turned onto the tracks at Shirley unseen by the agent and had crossed two culverts without stepping through between the ties, something I had not believed possible.

Until the early twenties all train orders were handled by telegraph and several more operators were employed than in present-day practice. Except for a very few of the sidings on the mainline there were station buildings and the agent-operator usually lived in rooms on the upper floor. Even at stations that were several miles from the nearest town this held true, and I often envied some of these men who could leave their keys and sounders and within ten minutes be catching brook trout or trolling for bass or togue in a nearby lake. Rand Cove, a station on the Medford Cutoff and several miles from the nearest village, is located where the line skirts Seboois Lake.

Early one crisp fall morning I was bound north and had pulled into the passing track there to meet an opposing train. I noticed the carcass of a large buck deer lying on the side of the track just north of the station platform. While waiting for the train we were to meet, I walked back to the office to get the deer story. Eddie Snow, the operator, told me he had shot the deer from the station doorway about 20 minutes previous to our arrival. He had seen it on several mornings at daybreak and as his garden had been almost ruined by deer he felt that vengeance was due. The fact that the open season on deer did not begin until about two weeks later did not bother him at all. In fact, in the days when there were but one or two game wardens to a county, the natives usually got their venison when and where they found it. Their one concession to the game laws was that they considered "jacking" at night with a lantern (pre-flashlight days) very poor sportsmanship.

I MENTIONED the fact that for several years after the wreck of the excursion train and Number 8 at Grindstone, Form 31 orders were always issued to all opposing trains. This sometimes put an extra load on the dispatchers, getting out orders for every meet and, as often happened, having to change them due to unforeseen conditions. Whenever possible they placed these orders at stations where trains would have to stop for coal or water in order to reduce the stopping and starting of heavy tonnage, but this was not always possible. At times the overall delay to a train stopped to get an order—at a station located at the foot of a hill for instance—would be greater than if the order had not been issued. Nevertheless, the rule was strictly adhered to. We had a wonderfully competent set of men in the dispatchers' offices at Bangor and Houlton, but in bitterly cold weather and heavy snow storms, when the road was full of trains in both directions, it was impossible to handle traffic without some delays and the positive meet orders were a major cause of them.

On the Southern Division we had one

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dispatcher, George Foss, who ranked as about the best in my opinion. He knew the crews and their capabilities and when I saw his initials on a train order I always felt that there would be very little time lost due to poor figuring on his part. However, I was out on the road one night when he was sitting in on the 11 p. m. to 7 a. m. trick and conditions arose that made him look very bad through no fault of his. It so happens that I have kept the train orders and delay report covering that night and can recall the various incidents clearly.

We had left Oakfield with Engine 180 and a train of potatoes at 10 p. m. Gene Tewksbury was my fireman and Al Crocker the conductor. We had an order to run extra to Millinockett and another to meet two northbound extras, X61 and X91 at Sherman. At the time these orders were put out by Johnny Parker, the 3 to 11 trick dispatcher, they looked good. He figured X180 at Sherman at 11 p. m. and the northbound extras there between 10:50 and 11:15 p. m. There were no operators on duty at this time of night at any of the stations between Oakfield and Millinockett except the man at Sherman where all northbound trains had to stop for water. Although the temperature was around 30 below no wind was blowing, the skies were clear and there was no blowing snow to be reckoned with. I arrived at Sherman on schedule and as I could see no headlight of the X61 showing up I took a tankful of water as a precautionary measure and then pulled down past the station, stopping in the clear of the south end of the passing track. Brakeman Billy Gagnon lined the switch up for the siding. The order board was still red, so I walked back to the telegraph office.

Foss had just come on duty and had told Operator Bill Donahue not to give us a clearance card; he had an extra almost ready to leave Millinockett and would give us a meet order with them as soon as he could figure our time out of Sherman. Foss also told Donahue to let him know when he could see X61 coming; X91, he added, should be close behind, for they left Millinockett 20 minutes apart. Crocker and I made ourselves comfortable in the warm office as Donahue interpreted to us the chatter of his sounder—X170 north was setting off loads and picking up empties at Millinockett; their conductor said they would be ready to leave in 20 minutes; Number 46 was picking up potatoes at Oakfield to fill to temperature tonnage and should leave there on time; a strong wind was commencing to blow at South LaGrange with prospects of drifting snow—all the big and little incidents of a busy night as they were relayed over the wire.

Number 46 was due to leave Oakfield at 12:15 a. m. and at 12:05 we could see the headlight of X61 coming, about a mile away. When Donahue reported this, Foss put out an order, "Number 46, engine 181 meet X61 north at Island Falls," a station 11 miles north of Sherman. When Conductor Yerxa came in the office a few minutes later and told Donahue he had seen the headlight of X91 about two miles behind him as he came through Stacyville, four miles south of Sherman, Foss put out another order for Number 46 to meet X91 north at Island Falls. A few minutes later, X61, having taken water, left town after reporting their delay due to low steam and having to double Summit Hill.

We waited another 50 minutes before we saw the headlight of X91 showing up and when Donahue reported it, Foss immediately gave us an order to meet X170 at Summit. This extra had been waiting at Millinockett about 15 minutes for orders and Foss was on the point of giving them a meet with us at Stacyville when X91 showed up. When X91 hauled into the siding it was with but half their train; but before Donahue could get and relay this information to Foss, X170 had left Millinockett and the meet order they had with us had to stand. Coming by Stacyville a brakebeam on one of X91's cars had dropped and the car derailed. The crew decided the best thing to do was to take their head end to Sherman and return with the engine to rerail it.

By this time Number 46 was at Island

Falls waiting for X91 and the 170 was in for a long wait for us at Summit. After a half hour's waiting, Conductor Frost on Number 46 took the responsibility of arousing the agent at Island Falls and getting him to come down and open his office. After more delay the agent, Mr. Mooney, got an order for Number 46 to meet X91 north at Sherman, and this train was standing behind our caboose before X91 got in the clear with their rear end some time later.

Number 45 was a merchandise run over the South Division, a train it was considered a cardinal offense to delay no matter how good the reason. It was due out of Millinockett at 2:20 a. m. but was running about an hour and a half late this night due to a late connection on the Maine Central. Foss wanted to get X180 and Number 46 to Millinockett for them, but with a meet to arrange between X170 and Number 46 and forced to wait until X91 got their car rerailed and their train in the clear, he was in a quandary. He could put Number 45 on a run-late order but that would be contrary to the positive meet instructions which he did not want to disobey.

At 2:40, Extra 91 finally pulled into the siding at Sherman with their rear end and on the assurances of Crocker and me that we did not need more than an hour to make the run and get in the clear for Number 45, he gave us Order 15, "Number 45, engine 183 meet extra 180 south at Millinockett and meet Number 46, engine 181 at Grindstone. Number 45 gets this order at Millinockett." Both Crocker and I almost pleaded for this order while we were waiting for X91 to show up and Foss was rather reluctant to issue it. However his only alternative would be to put X180 and Number 46 to Grindstone for Number 45, where a saw-by would result in delaying them probably 30 minutes. Furthermore Number 45 would lose its run for the hard grade up to Summit, thereby causing more delay. If he had Number 45 meet X180 at Grindstone and Number 46 at Summit, he would merely transfer the jackpot to this point as Number 46 would have to pull up the mainline there to let X170 out and then back up and head in on the siding.

He also gave us Order 16 addressed to X170 in our care at Summit, giving them a meet at that point with Number 46. By giving us this order to deliver he was delaying us a few minutes, but otherwise he would have had to break the positive instructions regarding meets between opposing trains. He told Donahue he was relying on us to get him out of a hole but was afraid we would put him in a worse one by delaying Number 45.

STANDING in a temperature of 30 below had frozen our train thoroughly and try as I might I could not get more than half the slack to start it. Quickly sensing my trouble, Crocker ran back over the top of our train and asked Abie Brown, the engineer on Number 46, to give us a shove out of town. He cut Brown off his train and we got started but when he stopped pushing after a few train-lengths my train pulled as though we were climbing a grade instead of having one slightly in our favor. At no time until we reached Summit did I get that train running over 15 miles an hour. I dragged slowly by X170 in order to allow Gagnon to give a copy of Order 16 to both the engineer and conductor and when I got a highball it was 3:24 a. m., giving me 26 minutes to cover the 16 miles to my meet and get in the clear without delaying them. From Summit to Grindstone is a down grade, one of the stiffest on the Division for six and a half miles; then there is about four miles of almost level track to the foot of Hardscrabble—the hill that governs the tonnage for southbound trains. After climbing Hardscrabble there are two miles of slightly down grade to the north end of the yard at Millinockett.

I realized that if I did not get the running-gear well warmed by the time we hit Hardscrabble, we would have to double the hill, delaying Number 45 and worst of all, leave Foss open to censure. Leaving Summit I let them roll, using my brakes but once, just enough to steady the train on

the reverse curves halfway down the hill. At 3:31 we passed the station at Grindstone, traveling about 60 miles an hour. Around the long reverse curves and over the bridge south of there and then across the long flat beyond, we commenced to pick up a little more speed and then there was no doubt about the train being warmed up.

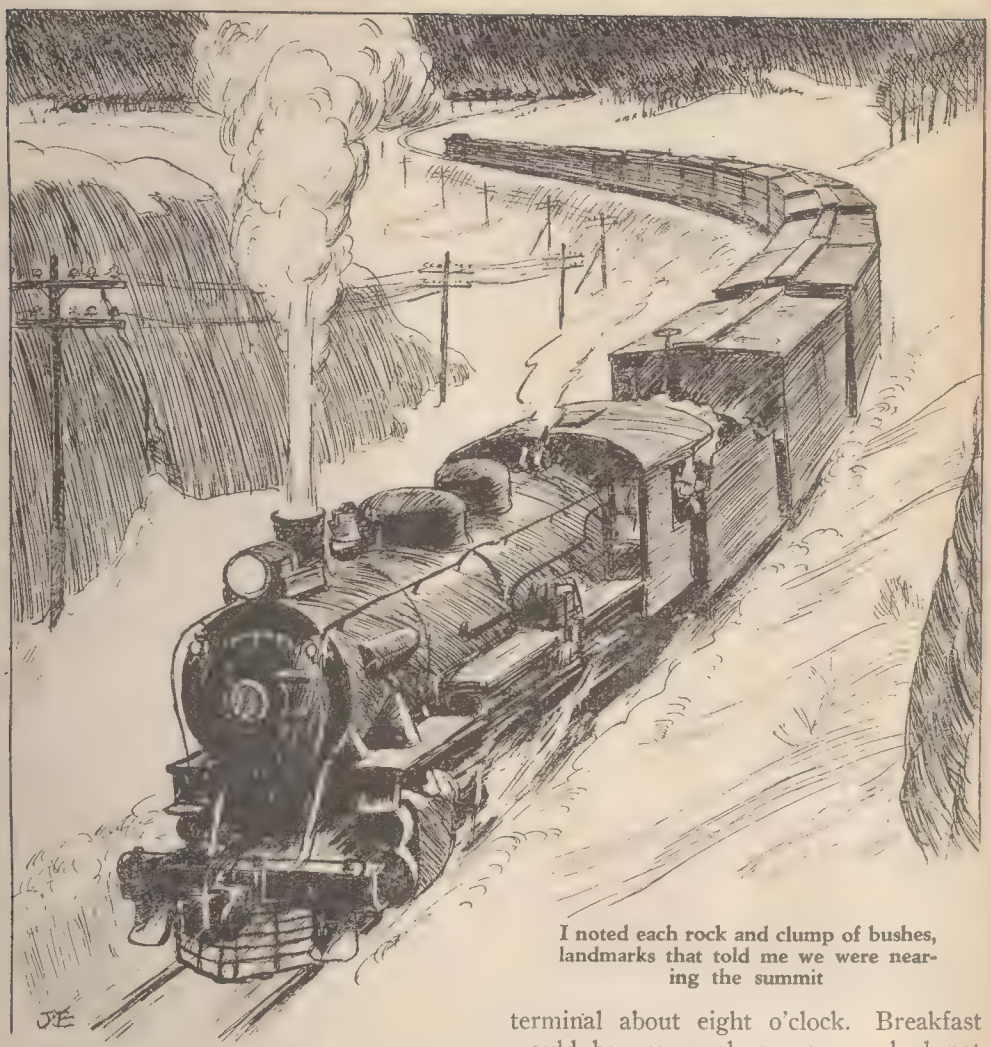
The grade up Hardscrabble has been cut down somewhat since, but at that time it was a hard steady pull its entire length with the last mile the hardest. As we hit the hill and commenced to drop our speed, the $64 question—will she handle them without doubling?—became the paramount problem. I dropped the reverse lever a notch or two at a time, gradually getting the throttle open to its fullest, and the 180 began to talk the language every road man knows so well. Too soon for my peace of mind we slowed to 20 miles an hour and then down to ten, and I was noting the rocks, the clumps of bushes and the other landmarks that told of our progress and how much farther we had to go until we had them over the hump. One factor in our favor was that we had a dry rail, for one slip of the drivers at the slow speed we were going would tie us up effectively. So, with one hand on the air sander valve, giving it a little shot about every 50 feet, we dragged along until we reached the rock ledge that told me another eight for 10 car-lengths would put them over on our side. We topped the hill at eight miles per hour and then, hooked up and with a light throttle, the 180 began to chuckle to herself over a tough job well done.

As we dropped down into Track 1 in the Millinockett yard Number 45 was slowly blasting up the mainline and my watch showed the time to be 3:53 and all was well. When Crocker came over the train he told me that everything in the caboose that was not nailed down lay on the floor by the time we got to Grindstone but that he and his flagman had figured they could ride just as fast as the fools on the head end. However, he knew we had done a good job and, what counted most to all of us, we had taken Foss out of the hole he was in through no fault of his.

At that time the timecard rules limited the speed of freight trains to 24 miles per hour but on occasions it was slightly exceeded, especially when telegraph offices were closed and trains could not be closely checked. There is no doubt in my mind that Foss realized fully what we were up against that night. When Donahue told him our train was frozen up, Foss would have held us at Sherman to change our meet order but as we had a clearance card on the board it is doubtful if he could have caught us. He told me the next day that all he could do was to sit tight and hope that rolling down Summit would give us a chance, but he figured we were going to delay Number 45 in any event.

The usual procedure at that time was for all southbound trains out of Millinockett to double the hill out of there to Elbow Lake and then a good proportion of them set their train out at West Seboois, 14 miles farther south to be picked up by following trains, the first crew returning to Oakfield. These turnaround crews usually found tonnage at West Seboois as northbound trains reduced there. We expected to do this, but after getting coal and water we received orders to run extra Millinockett to Northern Maine Jct., meet Number 1 at West Seboois, and pick up tonnage there.

The road skirts the shore of North Twin Lake for a few miles, commencing at Elbow Lake siding. When we got to that open stretch of the road a gale of wind struck us and by the time we passed Norcross the air was full of flying snow, dry, hard and cutting like sand. There were 40 or 50 cars of potatoes at West Seboois to go south and Crocker figured to take about half of them, leaving the rest for Number 46. We hauled in on the mainline of the Medford Cutoff and went in on one of the yard tracks to pickup. These cars had been standing for hours and were so frozen and drifted in by snow we had to pull them out in cuts of eight or 10 at a time. Before we were through, Number 46 came in alongside of our train.



I noted each rock and clump of bushes, landmarks that told me we were nearing the summit

When we were made up we used both engines to double over the pickup for Number 46 and soon both trains were ready to go. We each received the same order to meet X142 at Rand Cove and X172 at Medford. Leaving West Seboois the cutoff is perfectly straight and slightly down grade for four miles and, although it was hard hauling over this stretch, by the time we hit the curves and harder wheeling beyond, the running gear was fairly warmed up and we were making average speed. The wind was blowing hard and snow drifting to some extent, but we thought that if the meets we had ahead of us did not delay us much we should arrive at our terminal about eight o'clock. Breakfast would be very welcome as we had not eaten since leaving Oakfield except for a rather skimpy box lunch.

We made a perfect meet with X142 at Rand Cove—they were heading in the siding as we reached the north switch—but at Medford there was no sign of X172 when we stopped between switches. After we waited 35 minutes they showed up and slowly dragged into the passing track. They had battled their way up the hill from South LaGrange, fighting a steady gale that blew crosswise of their train and acted as a brake against the sides of their cars. Due to this delay it was 7:15 when we spotted at the water spout at South LaGrange. When Crocker came by the en-

gine on his way to register and get something on the board he asked me how much air I had. Glancing at the gage I told him 70 pounds and he said his gage in the caboose had not shown over 30 since we left Rand Cove. We had 78 cars in our train and, typical of those days, accumulations of frost in the trainline and frozen air hoses had probably reduced the breaking power of our train fully 75 percent. I had not used my train brakes since leaving West Seboois.

ALTHOUGH we had a rule that freight trains should be stopped a few carlengths short of all water spouts and the engine cut off to take water, I seldom did this as it meant a long wait to pump up the air again and release the brakes. This rule was probably made as a precautionary measure against rough handling and broken drawbars in spotting a long train at the water spouts, but like the 24-mile-an-hour speed limit for freight trains and the positive meet order rule, it did not help much to get trains over the road.

From South LaGrange south was the double-tracked mainline and when we left there at 7:35 our problem was to get in the clear at our terminal ahead of Number 122, the morning passenger train from Greenville, and deadhead on it to Bangor. Crocker told me they were on time, that he had registered us out at 7:25 and informed the dispatcher that we would go in ahead of them. This meant that the tower man at Northern Maine Jct. would have a clear track lined up for us in the yard and that Roundhouse Foreman Harvey Cross would have a hostler and helper ready to relieve us the moment our train stopped. We had level or down grades all the way with the exception of the stiff four-mile haul up North Bangor hill. But our hardest problem was to have the train sheet in the dispatchers' office show a speed of not more than 24 miles an hour.

Going through Bradford, the first station, I whistled out the operator and threw him a note asking him to put us by at 7:36 although we actually passed there at 7:47. Rolling down the hill through Hudson, I did the same thing, giving our time at 7:49 although it was actually 7:55, but as we were traveling about 45 miles an hour we were catching up on our time and, going through North Bangor, we hit it on the button. With the swing we now had on the train and the steam against the pops, the hill was pretty well leveled off and at 8:45 we stopped in the yard, although Crocker booked us in at 8:40 in order to show a 10-minute clearance on the arriving time of Number 122 as required by the book of rules. After a hurried check-up with the hostler our whole crew were on Number 122, bound for Bangor.

The crew on Number 46 were not so fortunate. Until we left South LaGrange they could not get to the water spout and by the time they were ready to leave Number 122 was due. Since they had to wait for this train to go before they could get the mainline, it was ten o'clock or after before they reached the terminal.

The delay resulting from having to put out positive meet orders between all opposing trains and the continuous arguments of the dispatchers with the management eventually had effect and the rule covering this was abolished. A big difference in the amount of overtime paid to the road crews was soon very noticeable and it was a welcome change. The merchandise run I've mentioned, train Number 45, was made a train of the first class and renumbered 57, and other trains seldom interfered with its schedule. But I think the greatest change of all was the improvement in the morale of the dispatchers, which of course was reflected in that of the crews out on the road. There is no job on a busy single-tracked railroad that keeps a man on his toes more than the train dispatcher's eight-hour stint of getting trains over the road without any unnecessary delays, but when he is handicapped by a senseless rule, he is being asked to do the impossible.

In my years on the BAR I never knew of any lapses by any of these men, with one exception. In 1919 I was running between Van Buren and Northern Maine

Jct. on Trains 7 and 8 covering both divisions. Van Buren was the northern terminal of that division, and one afternoon I left there on Number 8 on time at 2:30. Stockholm, 17 miles south, is the junction point with the mainline of a branch from Squa Pan, and at that time a passenger train from there was scheduled to make a connection with Number 8. Coming in to Stockholm, this train cornered a boxcar that fouled their track and the resultant extra work of transferring passengers, baggage, and express, delayed us considerably.

The dispatcher had two extra freight trains coming north on the mainline from Houlton and to help them against Number 8 he put out Order 26, "Number 8 engine 56 will run 30 minutes late Stockholm to Phair and will run 20 minutes late Phair to Monticello." Our delay was less than figured and we left Stockholm 36 minutes late. X62 received Order 26 at Phair at 3:10 and X77 got their copy at Houlton, completed at 3:28 p. m. On Order 26 we could not leave Caribou until 4:11, but we arrived there, picked up the usual Boston sleeper and were ready to leave at 4:07. Henry Dow, the agent, told the dispatcher this and the latter realized that our run-late order would slow us up. At the next station, Maysville, X62 was in the clear and when we arrived at Phair the dispatcher, having completely forgotten X77, had an order waiting for us annulling Order 26.

Number 8 was scheduled to make the 23 miles from Phair to Harvey in 43 minutes, including four station stops, but with the 56, one of the "smartest" engines of her class on the road, and with but five cars, we were gaining on the lost time fast. I whistled for Harvey, a flag stop, at 5:24 and could see a train pulling in over the south switch of the passing track. The head brakeman and the conductor jumped off the engine, both giving me a washout. I was prepared to be flagged in any event. This crew was using the last few minutes left them on Order 26 and thought I was running about six minutes ahead of that order. I showed them my copy of the annulment of Order 26 and as no harm was done all hands agreed to keep quiet about the matter until we knew more about it. We all believed the fault lay with an operator's neglect to deliver the annulment order, either at Monticello or at Littleton, to X77.

The dispatcher's office for the Northern Division was at Houlton and I had hardly come to a stop there before a very nervous and scared individual climbed up in the cab. He was the trick dispatcher and while he knew no harm had resulted from his oversight, he was half sick with his thoughts of what might have happened as a result of his error. I told him how matters had worked out and not to worry too much about it as I felt sure no one of either of the crews involved would spill anything about it. So far as I know nothing ever did leak out and the man who made this slip efficiently handled a dispatcher's responsibilities for years after this incident.

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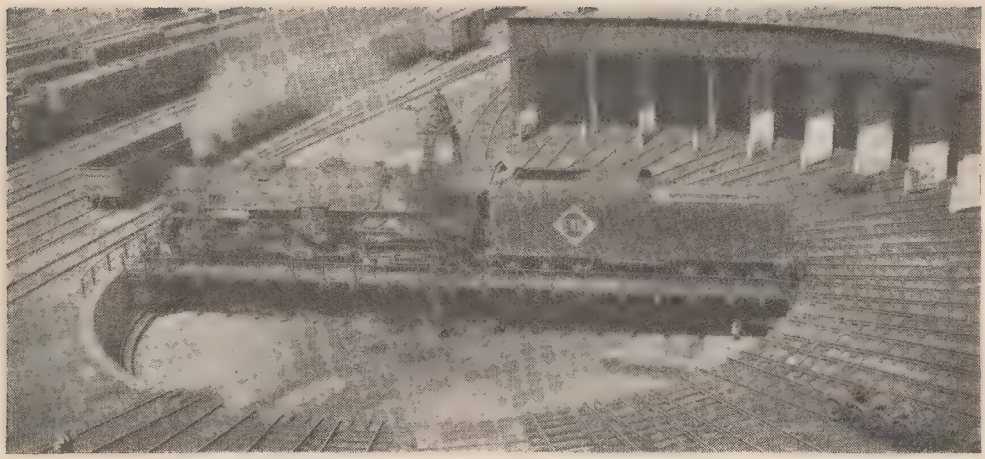


Courtesy Erie

Locomotives of the Erie

Steam Locomotives

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
			0-6-0 (Switcher) Type				
B-4	045	19 x 26	50	170	162,000	28,720	Alco, 1904
B-5	94	20 x 26	50	190	154,150	33,600	Meadville Shop, 1911
B-5	119	20 x 26	50	180	154,150	31,800	Alco, 1912
B-5	69	20 x 26	50	190	154,150	33,600	Alco, 1904
B-5	84	20 x 26	50	190	154,150	33,600	Baldwin, 1910
B-5	58, 70, 77	20 x 26	50	190	154,150	33,600	Alco, 1904
B-5	80, 83	20 x 26	50	190	154,150	33,600	Baldwin, 1910
B-5	89	20 x 26	50	190	154,150	33,600	Meadville Shop, 1910
B-5	98	20 x 26	50	190	154,150	33,600	Meadville Shop, 1911
B-5	110, 111	20 x 26	50	190	154,150	33,600	Alco, 1912
B-5	52, 53, 59, 60, 67, 71, 72, 73	20 x 26	50	190	154,150	33,600	Alco, 1904
B-5	54	20 x 26	50	180	154,150	31,800	Alco, 1904
B-5	62	20 x 26	50	160	154,150	28,300	Alco, 1904
B-5	80, 81, 85	20 x 26	50	190	154,150	33,600	Baldwin, 1910
B-5	86, 87, 90, 91, 93, 97, 99	20 x 26	50	190	154,150	33,600	Meadville Shops, 1910, '11
B-5	112	20 x 26	50	190	154,150	33,600	Lima, 1911
B-5	116	20 x 26	50	190	154,150	33,600	Alco, 1912
B-5	115	20 x 26	50	190	154,150	33,600	Alco, 1912
B-6	100, 101, 104, 106, 108	20 x 26	50	190	148,100	33,600	Meadville Shop, 1912
B-6	102, 103, 105, 107, 109	20 x 26	50	190	148,100	33,600	Meadville Shop, 1912
			0-8-0 (Switcher) Type				
C-1	120–135	25 x 28	51	185	214,000	53,950	Alco, 1918
C-3	200–229	25 x 28	52	200	230,210	57,200	Baldwin, 1927
C-3	230–244	25 x 28	52	200	236,280	57,200	Baldwin, 1929
C-3A	245–254	25 x 28	52	200	237,300	57,200	Baldwin, 1930
C-4	298, 299	22 x 28	51	200	205,620	45,150	Alco, 1914, '16
			2-8-0 (Consolidation) Type				
H-21A	1616, 1617, 1620, 1623, 1625, 1629, 1634, 1639, 1644, 1645, 1647, 1650, 1654–1656, 1658, 1667, 1669, 1673, 1675, 1681, 1684, 1692, 1703, 1714, 1752, 1756, 1763, 1765, 1775, 1782, 1784, 1785, 1788	22 x 32	62½	200	213,300	42,150	Rogers, 1904-06; rebuilt, 15-17
H-21A	1718, 1719, 1722, 1724, 1733, 1735, 1739, 1746, 2006, 2018, 2019, 2023, 2025, 2026, 2029, 2031, 2032	22 x 32	62½	200	213,300	42,150	Cooke, 1905-07; rebuilt, 15-17
H-21A	2041, 2060, 2066–2068	22 x 32	62½	200	213,300	42,150	Baldwin, 1910; rebuilt, 15-17

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
H-21B	1697, 1709, 1774	24 x 32	62½	190	213,300	47,600	Rogers, 1905, '06; rebuilt, '17
H-21B	1698	24 x 32	62½	200	213,300	50,150	Rogers, 1905; rebuilt, '17
H-21B	1717, 1723, 2009, 2027	24 x 32	62½	190	213,300	47,600	Cooke, 1905, '07; rebuilt, '15, '17, '19
H-21B	1633, 1664, 1780	24 x 32	62½	200	213,300	50,150	Rogers, 1904, '06; rebuilt, '15, '16
H-21B	2059	24 x 32	62½	190	213,300	47,600	Baldwin, 1910; rebuilt, '17
			2-8-2 (Mikado) Type				
N-1	3117, 3122, 3126, 3128, 3134, 3136, 3137, 3139, 3142, 3146, 3148, 3149, 3152	28 x 32	63	190	321,500	64,300	Alco, 1913
N-1	3012	28 x 32	63	190	328,600	64,300	Baldwin, 1911
N-1	3055	28 x 32	63	190	328,600	64,300	Alco, 1912
N-1	3085	28 x 32	63	190	328,600	64,300	Baldwin, 1913
N-1	3001, 3002, 3007, 3009, 3016, 3018, 3019, 3065, 3067, 3071, 3075, 3076, 3088, 3095, 3097, 3099	28 x 32	63	190	328,600	64,300	Baldwin, 1911-13
N-1	3024, 3029, 3031, 3037, 3040, 3043, 3045, 3046, 3049, 3052, 3062, 3063	28 x 32	63	190	328,600	64,300	Alco, 1912
N-1	3083	28 x 32	63	190	328,600	64,300	Lima, 1913
N-1	3029, 3049, 3052, 3059	27 x 32	63	200	328,600	62,950	Alco, 1912
N-1	3064, 3076, 3114	27 x 32	63	200	328,600	62,950	Baldwin, 1912, '13
N-1	3079	28 x 32	63	190	320,600	64,300	Baldwin, 1912
N-1	3005, 3087, 3103, 3106	27 x 32	63	200	329,900	62,950	Baldwin, 1911, '13
N-1	3021, 3023, 3028, 3032-3034, 3041, 3042, 3044, 3051, 3053, 3054, 3057, 3061	27 x 32	63	200	329,900	62,950	Alco, 1912
N-1	3000, 3003	27 x 32	63	200	329,900	62,950	Baldwin, 1911
N-1	3110	27 x 32	63	200	328,600	62,950	Baldwin, 1913
N-1	3116, 3121, 3124, 3129, 3133, 3135, 3147	27 x 32	63	200	329,900	62,950	Alco, 1913
N-1	3118, 3120, 3123, 3125, 3130, 3131, 3132, 3143, 3145, 3150, 3153	28 x 32	63	190	329,700	64,300	Alco, 1913
N-1	3151, 3154	27 x 32	63	200	329,700	62,950	Alco, 1913
N-1	3004, 3010 3013, 3014, 3017, 3066, 3073, 3077, 3078, 3090, 3091, 3093, 3094, 3102, 3104, 3107, 3109, 3111-3113	28 x 32	63	190	320,600	64,300	Baldwin, 1911-13
N-1	3022, 3025 3030, 3035, 3038, 3039, 3047, 3048, 3056, 3058, 3060	28 x 32	63	190	320,600	64,300	Alco, 1912
N-1	3080, 3082	28 x 32	63	190	320,600	64,300	Lima, 1913
N-1	3074	28 x 32	63	200	320,600	64,300	Baldwin, 1912
N-2	3200–3214	27 x 32	63	200	320,000	62,950	Alco, 1918
N-3	3155–3194	27 x 32	63	200	343,480	62,950	Baldwin, 1923
N-3A	3199	27 x 32	63	200	346,050	70,750*	Baldwin, 1926
			2-8-4 (Berkshire) Type				
S-1	3300–3324	28½ x 32	70	225	443,000	82,500*	Alco, 1927
S-2	3325–3349	28½ x 32	70	250	457,500	84,750*	Lima, 1927
S-3	3350–3384	28½ x 32	70	225	461,470	82,750*	Baldwin, 1928
S-4	3385–3404	28½ x 32	70	250	468,800	85,000*	Lima, 1929
			2-10-0 (Decapod) Type				
J-2	2428, 2449	25 x 28	52	180	197,900	51,500	Baldwin, 1916
J-2	2466, 2467	25 x 28	52	180	197,900	51,500	Richmond, 1916
			2-10-2 (Santa Fe) Type				
R-1	4002	31 x 32	63	200	417,200	83,000	Baldwin 1916
R-1	4011–4014, 4018	31 x 32	63	200	417,200	83,000	Alco, 1916
R-1	4024, 4025	31 x 32	63	200	417,200	83,000	Lima, 1917
R-1	4021	31 x 32	63	200	429,300	94,500*	Alco, 1916
R-2	4113	31 x 32	63	200	404,000	83,000	Alco, 1916
R-2	4109, 4114	31 x 32	63	200	404,000	83,000	Alco, 1916
R-2	4118, 4122, 4124	31 x 32	63	200	404,000	83,000	Alco, 1917
R-3	4200, 4202, 4217	28 x 32	63	200	380,000	67,700	Alco, 1919
R-3	4203, 4204, 4207, 4209, 4213, 4216, 4219	30 x 32	63	200	380,000	77,700	Alco, 1919
R-3	4201, 4205, 4206, 4208, 4210–4212, 4214, 4215, 4220–4223	28 x 32	63	200	380,000	67,700	Alco, 1919
			4-6-0 (10-Wheeler) Type				
G-15A	950	21 x 26	68	200	185,210	28,650	Baldwin, 1903; rebuilt, '23
G-15B	952, 954, 972	21 x 26	68	200	185,210	28,650	Baldwin, 1903, '04; rebuilt, '24
			4-6-2 (Pacific) Type				
K-1	2513, 2516, 2518–2536, 2538, 2540–2542, 2544–2553	22½ x 26	74½	200	243,550	30,050	Rogers, 1905, '06; rebuilt, '12, '17

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
K-1	2511, 2512	22½ x 26	74½	200	243,550	30,050	Alco, 1905; rebuilt, '12, '15
K-1	2554, 2555, 2557-2561, 2563-2567	22½ x 26	74½	200	243,550	30,050	Baldwin, 1908; rebuilt, 12-15
K-2A	2909, 2910	26 x 28	77	200	301,800	45,100	Alco, 1917
K-2A	2905	26 x 28	77	200	301,800	41,800	Alco, 1917
K-3	2509	27 x 28	79	185	269,000	40,650	Alco, 1910
K-4	2710-2719, 2722-2727, 2729-2733	25 x 28	69	210	281,600	45,300	Baldwin, 1913, '14
K-4	2700-2702, 2706-2709	25 x 28	69	210	284,000	45,300	Alco, 1913
K-4	2734-2743	25 x 28	69	210	287,000	45,300	Alco, 1916
K-4B	2744-2753	25¼ x 28	75	215	308,900	43,500	Baldwin, 1923; rebuilt, '29
K-5	2915, 2916, 2918-2934, 2945	27 x 28	79	200	316,450	43,900	Alco, Baldwin, 1919
K-5A	2935-2944	27 x 28	79	210	323,000	46,100	Baldwin, 1923
K-5A	2960	27 x 28	79	210	328,950	46,100	Baldwin, 1926

Diesel Locomotives

Class	Numbers	Horsepower	Drivers	Engine Weight	Tractive Effort	Builder and Date
		B + B (Switcher) Type				
M-1	19, 20	600	38	130,000	36,000	Alco, 1926, '28
M-2	21, 22	600	42	233,000	62,850	Alco, 1927
M-3	25	800	42	230,000	65,700	GE, 1931
M-4	302-305	660	40	198,500	49,600	Alco, 1939
M-4A	306-316	660	40	201,000	50,250	Alco, 1947
M-5	401-403	1000	40	250,000	61,700	EMD, 1939
M-5A	404-416	1000	40	247,350	61,800	EMD, 1948
		A + B + B + A (Freight) Type				
L-1	700-705	5400	40	925,280	240,000	EMD, 1944
L-3	725-733	6000	40	936,000	234,000	Alco, 1947, '48
		A + B + A (Passenger) Type				
L-50	800-806	4500	40	736,000	183,904	EMD, 1947

Gas-Electric Locomotives

0-4-0 (Switcher) Type

Class	Numbers	Cylinders	Drivers	Horsepower	Engine Weight	Tractive Effort	Builder and Date
A-1	09	(6) 7¾x12	42	335	46,600	11,500	Baldwin, 1916-'17

**Tractive effort with booster*

Prepared Dec. 15, 1948

(Readers who doubted the radical curtailment in the Great Northern roster will be interested in knowing that the GN motive power department put us a step or two ahead of the intended changes. The roster printed in Jan. '49 includes the severe cuts in steam engines planned for the coming months. If you still see some of these engines, it won't be for long.)

In mourning for Port Jervis? Erie de-glamorizes its freight Diesels with a severe black exterior, accented with yellow. Four-unit jobs like these rumble through "The Port" with hardly a pinch of air

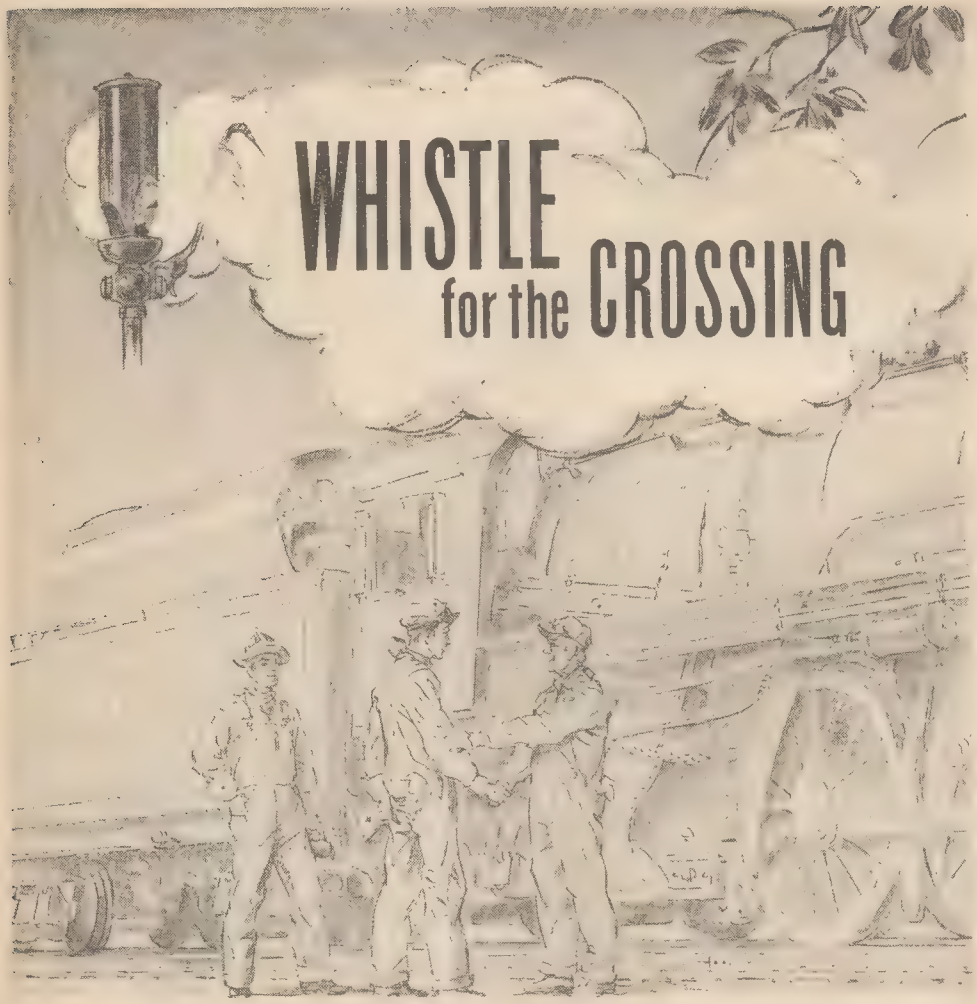
Courtesy Railroadians of America

Four sand domes for the hills. Before air agitators came, it was hard to keep seashore sliding into the pipes from boiler tops of large diameter. Hence the off-center reservoirs

G. Grabill, Jr., Courtesy Railroad Photographic Club

Headed for Memory Lane. Red number plates and cab roofs, polished Russia Iron jackets and yellow numerals made 10-wheelers like the 954 all that an engine-lover most admired

The *Steel King* leaves Marion O. behind a capable K-5. Diesels are fast relegating these handsome *Pacifics* to secondary runs



WHISTLE for the CROSSING

By RICHARD MOORE

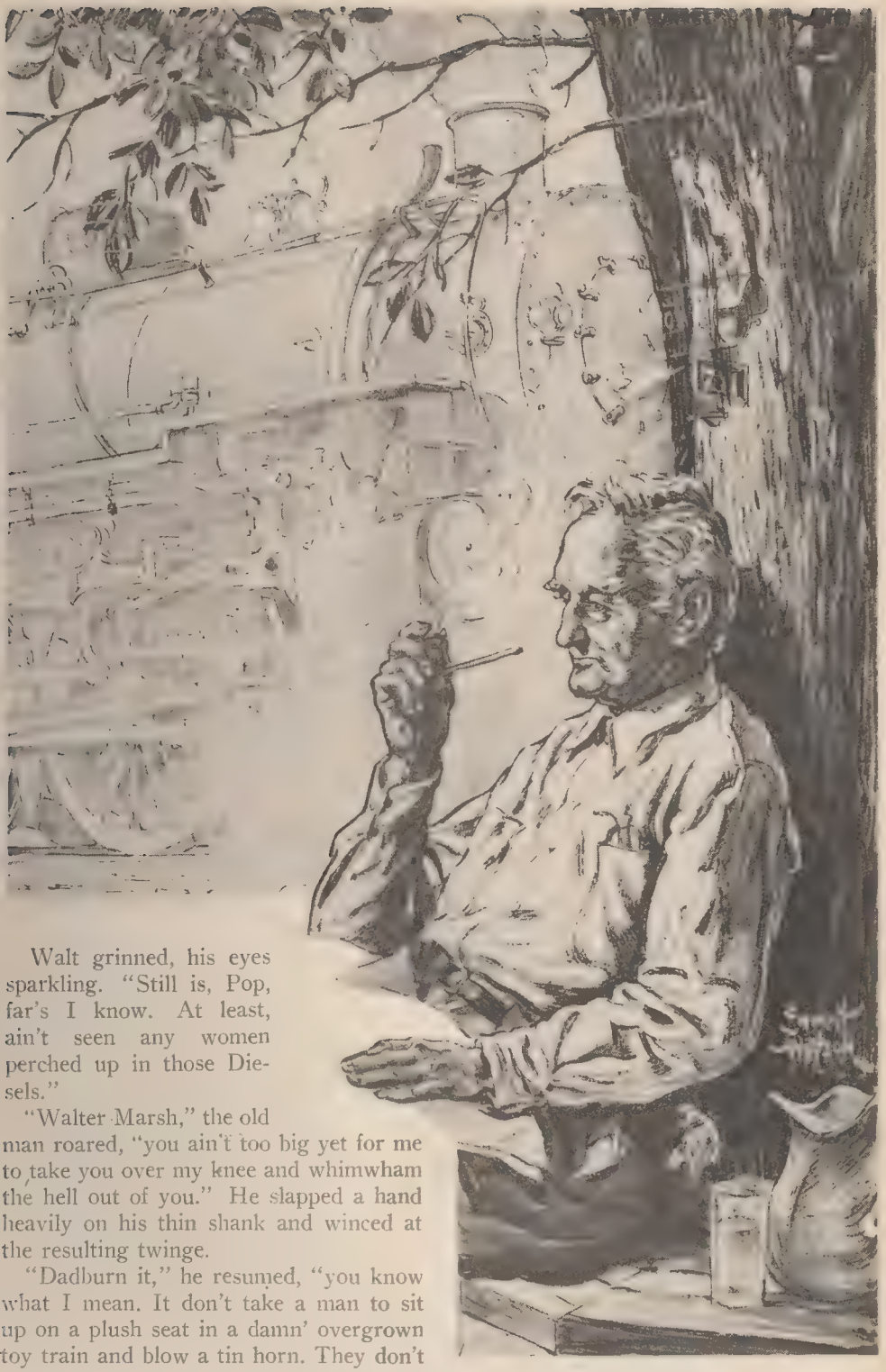
THE arrogant hoot of a Diesel streamliner floated upward from the Valley Yards and hovered briefly in the summer glow that perched upon Jeryo Marsh's private hilltop, a commanding rise overlooking the quiet railroad town of Valley City.

"Damn' fish horn," muttered Jeryo, shaking the obnoxious sound from his pink and hairy ears. Creaking slightly, he moved his ancient form enough to avoid a thrust of low-slanting sunlight through the leaves of the enormous elm tree.

"Here I was, peaceful and contented," he groused. "Gettin' so a man can't even rest."

"Givin' 'em hell again, are you, Pop?" It was his lanky twenty-year-old grandson, Walt, who had come cat-footed up the path from the house a few rods away.

Jeryo swung his head menacingly, glaring with incredibly clear blue eyes from beneath heavy grey brows. "Walt," he said sternly, "you're the son and grandson of railroadin' men, and a railroader yourself. You ought to know how I feel. Everything's too easy now. Steam railroadin' was man's work."



Walt grinned, his eyes sparkling. "Still is, Pop, far's I know. At least, ain't seen any women perched up in those Diesels."

"Walter Marsh," the old man roared, "you ain't too big yet for me to take you over my knee and whimwham the hell out of you." He slapped a hand heavily on his thin shank and winced at the resulting twinge.

"Dadburn it," he resumed, "you know what I mean. It don't take a man to sit up on a plush seat in a damn' overgrown toy train and blow a tin horn. They don't

know diddley-eyed shucks about hoggin' a steam locomotive, let alone dyin' with one of 'em tryin' to save the train, like your pappy did."

The twinkle left Walt's eyes. "Sorry, Pop," he apologized. "I was just kiddin'!"

"Ain't no kiddin' matter," Jeryo grumbled. "Wasn't bad enough to be shoved out into a damn' rockin' chair while the line was still runnin' steam. Now I got to sit in the only place I can call home and listen to those dadblasted foghorns all day. I swear, I used to look forward to retirin'. Now, doggone if I don't think there's no future to it."

"You've been retired nineteen years now," Walt pointed out. "Maybe the new's sort of wearin' off. Anyhow, Aunt Ellen says to come and get your medicine."

"Tell her to take it herself," Jeryo snapped. "I'd like to get my fist on a genuine whistle cord again. I'd play 'em a tune that'd run those overgrown squawkers off the line."

"Pop," Walt said.

"Run along, boy. I'll be comin' in before long. I got to rest."

"Okay, Pop," said Walt. He walked slowly back toward the house.

For the moment, Jeryo Marsh had no intention of stirring his aged bones. Afternoon quiet again had seeped into the air around the elm tree, and Jeryo's briefly disturbed world was warm, peaceful, and comfortably vague.

"It's the way I like it," he thought. "No worries, no work, a good kid for a grandson and a good woman to do for me. I can stand nineteen more years of it."

Nineteen more years—without railroading, except for his commanding view of all the goings and comings in the Division Yards below; and nineteen years without Joe-Mac.

Memory raced to the day he had said goodbye to both, standing with his slight form dwarfed by the tall drivers of the old *Blacksnake's* engine. Engine 701 she was, pulling train Number 4. But to Jeryo Marsh and every man on the Valley Line, Engine 701 and the five sooty coaches she pulled were but one thing—the *Blacksnake*.

The words that were said that day came back to Jeryo with painful ease.

"I was countin' on this as a happy day, son," he said. "To see my own boy takin' over my old engine, carryin' on where I left off. It hurts me to have you talk about givin' up railroadin'."

"You're my dad," Joe-Mac said, his blue eyes snapping. "But it's my life, and I don't plan to spend it the way you did, runnin' the same engine down the same track until you know every rock in the roadbed by sight. I'll take your run for you, to give you what you wanted; but as soon as Lila and I can get away, we're goin' to Frisco for a new start. And nothing's gonna stop us."

He looked toward Mart Briggs, his fireman. "Ready, Mart?" He swung up into the *Blacksnake's* cab.

"Big talk," Jeryo said with disgust. "An engine driver's never fit for anything else. You was born a railroader, and you'll die one."

Jeryo Marsh was speaking to the sooty side of the baggage car. He stood for a moment, watching the rivet-studded wall slide by. Then he turned and walked slowly through the quiet streets of Valley City toward home.

Blackening dusk approached Jeryo's hilltop when the telephoned word came from the trackwalker; the stunning story of the flash flood down Ripsaw Gorge, and the weakened trestle over Devil's Leap.

"I run up the track soon's I seen the trestle shakin'," the frightened man told Jeryo. "But I couldn't get there before Joe-Mac come down the line.

"Him and Mart coulda jumped, but they stuck to the cab and tried to stop her. They rode the *Blacksnake* right on down to the quicksand."

And in the nineteen years since no trace of the *Blacksnake's* crew had ever been found in the deep, shifting sands of the Ripsaw.

You was born a railroader, Joe-Mac, and you'll die one.

JERYO groaned softly and pulled himself to his feet.

"Might's well take that damn' medicine," he reflected. "At least, it'll change the taste in my mouth."

Voices floated out from the kitchen as Jeryo creaked slowly down the flagstone walk.

"Mary Nell comin' for dinner tonight?" Aunt Ellen was inquiring.

"Ain't asked her," Walt replied. "Not much point havin' her around, when I can't have her."

"No law against marryin' the girl you love, far's I know," Ellen observed.

"No use marryin' a girl when you can't support her," Walt returned matter of factly. "I got all I can handle now. Livin' costs a lot, and Pop's pension money don't even buy the medicine he has to have to stay alive."

"Marshes was always bullheaded," Ellen said. "Well, I got no call to criticize. I'm livin' off you, too, and I ought to be back in Nebraska with sister Annie, stringin' my days out in peace."

"You're givin' lots more than you'll ever get," Walt said. "It ain't fair to you, havin' to keep your sister's house after she's gone. You could go any time, Ellie, and nobody'd blame you."

"Nobody but myself," Ellen rejoined. "The poor old codger's so feeble he's got to have somebody to keep house for him while you're on the road. If I go, won't be nobody to do it . . . And that reminds me he hadn't taken. . .

"Jeryo Marsh!" she yelled toward the open door. "Come get your medicine."

"I'm here, woman," Jeryo said sourly from the stoop. "Ain't no call to dislocate your tonsils."

"Jeryo Marsh," Ellen's jaw dropped. "How long you been there?"

"Just driv up," Jeryo said noncommittally, hauling himself carefully over the threshold. "Gimme the blasted medicine, so's I can get back out in the air and get it over with."

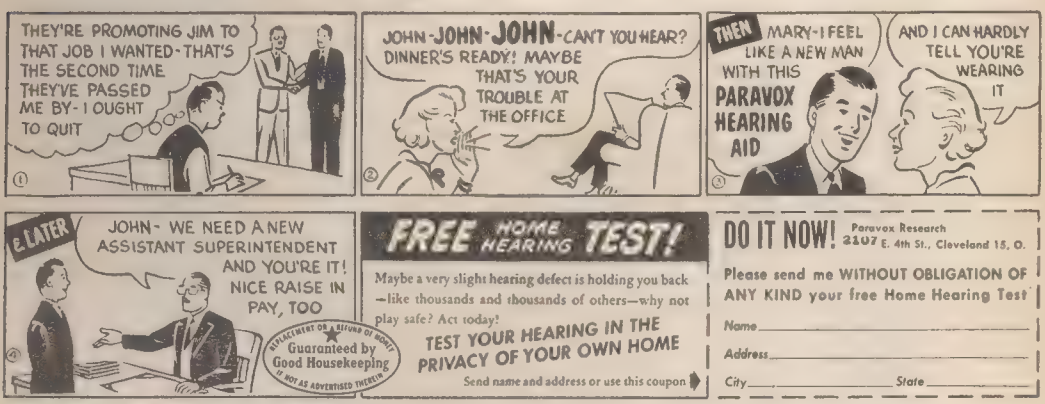
Back in the worn rocker beneath the elm tree, Jeryo looked out from his hilltop over the calm valley; but the familiar, friendly warmth of the day and the sparkle of the sunlight had faded and dulled.

"Well," he said dourly, " 'F I've come to be a worthless old bag of bones, livin' off people that don't want me, guess I'd better do somethin' about it." He paused. "But," he added, "I'm doggoned if I know what."

He remembered the glass of watery brown liquid in his hand and growled, "If this mess of clabbered shellac is supposed to be keepin' me alive, I've already been around too long." With a surreptitious glance toward the house, he carefully poured the brackish liquid over a stray dandelion.

"Ha," he said. "That's what the stuff's good for. Killin' weeds." He glanced over the ground around him. "And there's plenty to kill," he added sagely.

Somewhere across the valley, the rolling thunder of train wheels on a high trestle came out of silent nothingness and rose,


THEY'RE PROMOTING JIM TO THAT JOB I WANTED-THAT'S THE SECOND TIME THEY'VE PASSED ME BY-I OUGHT TO QUIT
JOHN-JOHN-JOHN-CAN'T YOU HEAR? DINNER'S READY! MAYBE THAT'S YOUR TROUBLE AT THE OFFICE
THEN MARY-I FEEL LIKE A NEW MAN WITH THIS PARAVOX HEARING AID
AND I CAN HARDLY TELL YOU'RE WEARING IT
& LATER JOHN- WE NEED A NEW ASSISTANT SUPERINTENDENT AND YOU'RE IT! NICE RAISE IN PAY, TOO
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faintly but clearly, into the soft air. Jeryo started erect, and listened long and intently—analyzing each fleeting sound. He looked down into the yards, and saw no motion. Illogically, he peered toward the sky; there was only the clear blue above. "Damn me," he said finally. "It's the *Blacksnake*, or I'm crazy."

The rumble swelled briefly, then faded slowly into remoteness.

Jeryo, his old heart pounding painfully, tapped thin fingers against the empty glass and thought long and hard. At length he said, "And I know damn well I ain't crazy. Yet."

He said no more. But through the shortening days thereafter, late afternoon found him in his chair beneath the elm trees, his glass of medicine in his hand and his ears tilted hopefully. As usual, Jeryo Marsh kept his own counsel—until the day when he at last found himself unable to haul his protesting bones out of bed.

Jeryo lay, a knobby lump in the middle of his huge four poster, and groused bitterly. "I tell you," he said, "I heard the *Blacksnake*. I've been hearin' it every evenin' now, right onto four o'clock, for more'n a week. And if anybody in this plague-taken world knows every clank and clatter of that train by heart, I do. So don't keep tellin' me, dammit, that I'm imaginin' things."

"Okay, Pop," Walt said nervously. "We ain't arguin'."

"All right," retorted Jeryo. " 'Cause it ain't no use. It's the *Blacksnake*, and she's runnin' out there somewhere. Don't know who could be drivin' her, but if he'd just whistle once I'd know. And you'd all hear it, then. You'd all know for sure."

Ellen drew Walt to the doorway. "Better get the doctor back, Walt," she whispered. "This is the worst he's been."

"Don't be whisperin' around me like a pack of mourners," Jeryo commanded. "I'll be up fitter'n a fiddle tomorrow. I can get up right now. Gimme my pants Walt. I got to find the *Blacksnake*."

"No, Jeryo," Ellen warned. "You'd best keep quiet."

"If she'd just whistle," he said fretfully. "Then we could tell. Not like a dadgum Diesel horn." He emitted a cracked chuckle. "Anytime Jeryo Marsh pulls the whistle cord, everybody in Valley City knows who's talkin'. That whistle's Jeryo Marsh's private trademark. Right, Joe-Mac?"

"Jeryo—" said Ellen. "Hurry, Walt."

THE sun was bright as Jeryo walked easily down the hillside path to the lane leading toward town, sniffing with interest at the pine-scented breeze. His joints moved effortlessly, and his step was light. He meditated briefly on the phenomenon.

"Never felt better," he pronounced. "Told 'em I'd be up. Medicine—shoosh!"

Jeryo walked onward, vaguely hoping to meet someone along the way. The entire neighborhood, it seemed, was deserted and faintly unreal. It was the same on Miller Street; the houses drowsed behind protecting screens of shrubbery, but no one appeared on the lawns or in the streets.

"Mighty nice evening," said Jeryo. "Glad I got enough sense to get out and suck up some fresh air, even if nobody else has." He felt a trickle of sweat into his eyebrows, and reached into the hip pocket of his striped coveralls for his red bandanna. "A mite hot, though," he opined, mopping energetically.

A sudden thought struck him. He hauled out his big watch and studied it briefly. "Two minutes and nineteen seconds to four," he quoted. "Time's a-wastin'." He walked briskly down Miller, turned left on Second Street, and traversed the short space that separated him from the Valley Line station.

Across the platform, heat devils shimmered above the rails. The scent of steam came to his nostrils, and he heard the gentle panting and clanking of injectors on the shining black locomotive that stood, tiny white flags alert, in front of the red brick depot.

"Durn me," he said, analyzing a new note in the behemoth's contented throb, "they finally changed that damn gasket."

Beside the middle in the trio of six-foot drivers stood a lanky man, poking with the long copper spout of his oil can. "Hi, Mart," Jeryo said. He touched the bill of his high-peaked cap casually as Mart turned.

"Hi, Jeryo," Mart replied. He spat tobacco juice into the gravel of the roadbed. "Guess you're ready to go."

"Yep," said Jeryo. "What's your time?"

The two solemnly compared watches. "Ten seconds," Jeryo said. "Might's well start." He followed Mart up the steps of the cab and settled himself into the familiar depressions of the worn leather cushion on the driver's seat. Mart took his position on the left side and peered out at the block signal. "Green," he said.

"Green," Jeryo replied.

"By the way," Mart Briggs said, as the *Blacksnake* shook the slack out of her drawbars and rolled smoothly forward, "no bell for the town stretch. No whistle for the crossing. Standard rules."

"That so?" Jeryo said. "Silly. Why not?"

Mart spat through the window. "Chief figures it'd scare folks," he said.

"Pshah," retorted Jeryo. "Serve 'em right, the dadgum Diesel lovers."

He made to say more, then stopped as a heavy screen of fog loomed ahead of the thrusting pilot. "Jehosephat," he began. "What's—" He broke off again as the *Blacksnake* plunged into the fog. The beat of the exhaust slowed and flattened as the engine inclined sharply upward.

Mart chuckled from across the cab. "Fifteen percent grade, Jeryo. From here on out, the run's a little different."

Jeryo blinked at the fog, then discovered it was scudding away. Through the widening rifts he saw green fields, yellowish streets, and multicolored housetops, all sliding away beneath him.

"Well," he opined. "I'll be doubledamned. Never saw nothing like that before."

"Does seem a mite strange," Mart conceded, "until you get used to it. Me, I've got so I like it better."

"Well, I'll be dadburned," Jeryo marveled. "So this is where you was when I used to keep hearin' you, this time every evenin'."

"Yup," replied Mart. "Right after we hit the switch from the earth line."

"One thing I can't figger," said Jeryo. "Why'd you make all the empty runs?"

Mart shrugged. "Casey wasn't sure you'd come when your orders specified," he said. "They had the date figgered right, of course, but Joe-Mac said you'd be along whenever you got ready, and no sooner or later."

Jeryo felt a sudden, warming tingle. "Joe-Mac," he said softly. "How is the boy? Couldn't he come?"

Mart grinned. "Joe-Mac's doin' right well for himself, Jeryo. He caught right on, and he's a division super now. He's plenty busy, and he said anyhow it'd be more like old times if I come for you. He'll be waitin' when we get in, though. Old Casey may be there, too. He likes to see the old timers."

"Casey?" said Jeryo. "You mentioned him before. You mean—"

"Yep," said Mart. "Jones. President of the board, and he thinks the world and all of Joe-Mac."

Jeryo sighed contentedly. "Joe-Mac," he said. "It'll do me a world of good to see the scamp again." He shook his head. "It was mighty hard," he said sadly, "not even bein' able to find him after the *Blacksnake* went into the Ripsaw."

Mart nodded in agreement. "Joe-Mac took it perty hard, too," he said. "You and him havin' parted on sort of distant terms, like you did."

"Biggest regret I ever had," said Jeryo. "I hope the boy doesn't hold no grudge over it."

"Nope," replied Mart. "He was sorry for the way he talked before we got five miles out of the yards. And he says he had plenty of time to think it over while the *Blacksnake* was comin' down through that trestle, and he realized then you was right. Why, hell, man, he's jumpin' up and down to see you."

"Well, that's fine," said Jeryo. "But—

that word you just used, Mart. Don't—I mean, can you say things like that around here?"

Mart guffawed. "I heard the Chief himself say one day," he replied, "that Paradise would be a hell of a place if a steam railroader wasn't allowed to speak his mind."

"Haw," Jeryo chuckled, reaching for his cut plug. "That's a relief to me." He worried off a sizable chew, and a thought popped into being.

"You said steam railroaders. Do you mean them damn— I mean, them Diesels haven't got into the setup yet?"

"Nope," said Mart. "What few have been comin' up, they go to a division of their own. We never see 'em."

"Well," marveled Jeryo. He grinned broadly and spat down toward the smoothly rolling drivers. Receding beneath were the Valley Yards, the houses and stores that were Valley City, and the shaded hilltop that had been Jeryo Marsh's own.

Down there, he realized suddenly, Walt was choking back the grief in his throat and Ellen was quietly sobbing. Walt would be trying to comfort her with his clumsy hands upon her shoulders, and she would wipe the tears from her weathered cheeks and smile bravely at him.

If they could just know, Jeryo thought, that they needn't worry—that everything was fine—

"Mart," he said, reaching toward the whistle cord, "rules are rules, but—just one more time, could I—"

Mart grinned sagely. "Just this once, Jeryo," he opined, "shouldn't do no harm."

"This," Jeryo said with a grin, "is what you call whistlin' for the crossing."

Valley City paused in startled immobility as the unaccustomed sound struck its collective ear. Walt and Ellen heard with an amazement into which understanding slowly trickled. Here and there about the town, a grizzled old hogger stiffened and uttered blasphemous sounds of disbelief. Silence crept, finally, gingerly, back to replace the rollicking echoes of the wailing, uninhibited blast that for thirty-five years had been the private, unmistakable trademark of Jeryo Marsh.

Far above, the rolling thunder of the *Blacksnake* echoed for the last time across the valley.

Samuel H. Lewis

Spokane, Portland & Seattle No. 625 waits patiently at the Portland roundhouse lead before taking out the *Columbia River Express*. Leaving on the advertised, at 9 a.m., this Hls-type *Pacific* handles the train from Portland, Ore., to Pasco, Wash., at which point it is turned over to the Northern Pacific for the remainder of the journey to Spokane

New Railbooks

Britain's Big Four, by Horace Greenleaf, 228 pages, 5 color plates, more than 120 illustrations and endpaper maps of British railway systems; Winchester Publications Ldt., 16 Maddox St., London W. 1, England; 21 shillings ($4.25)

The Permanent Way, H. N. Greenleaf and G. Tyers, 196 pages, 4 color plates, 78 illustrations; Winchester Publications Ltd., *(address above)*; 21 shillings ($4.25)

ENGLAND'S postwar austerity program has in no way hindered the presentation of two of the handsomest railbooks this reviewer has seen: *Britain's Big Four* by Horace Greenleaf and *The Permanent Way* by Mr. Greenleaf and G. Tyers. Planned as companion volumes they correlate the history of the Big Four with concise descriptions of operations today, of the century-plus development in rails, "pickled sleepers," signal systems, viaducts, crossover, engine, and bridge designs, functional wagons and coaches, and also the friendly countryside and physical hazards England laid before its railway pioneers. The "navvies" who battled flooding tunnels, storms, precipitous cuts—and one another—to strip the shires with steel, the engineer-projectors whose stubborn beliefs demanded an Act of Parliament to settle the disputed standard gage—these men were the lifeblood of railroad building in Britain. They are the lifeblood of this history of British railroads.

Considered separately, each volume gives the reader an adequate picture of the major systems; the variance is the question of emphasis. *Britain's Big Four* opens with a cab run from London's Euston Station to Crewe, describing from the engineers viewpoint the motive power, trackside structures, a landscape and tension within a locomotive racing 158 miles non-stop toward Scotland, averaging better than 60 mph. Later chapters concentrate on the progress in engine design and classification, the evolution of signaling, the construction and maintenance of roadbed and finally rolling stock—freight cars with type names like crocodile, python, macaw and rectank. Then with all this in mind the author takes up the origins of Britain's Four. Now that nationalization of British railways is an accomplished fact, this historic study has new significance.

The Permanent Way, as you might suspect, focuses attention on the structural aspects of England's 50,000 miles of single track. Unlike American lines, British railways were more often surveyed for operational speed than for initial economy or swift completion of the roadbed. But Stephenson, Brunel and the others had troubles of their own: shoemakers in Northhampton who demanded Kilsby Tunnel rather than chance spoilage of their sheepskins because of smoke; the minister whose attacks against railroad men scheduled surveys in his district for Sundays when he was in the pulpit; the bog lands across which Stephenson floated his rails on hurdles covered with heather; infamous Box Tunnel which cost $400 per yard and about one hundred lives before its opening, and then was shunned by the traveling public; the Firth of Tay bridge that collapsed. In addition to recounting the dramatic struggles of the engineers, this book includes a listing by railway of all important bridges, viaducts and tunnels. It also quickly reviews the corporate growth of the four systems and the various narrow-gage lines in the British Isles.

But no brief summary of the contents of these two volumes can suffice; they must be seen for one to appreciate the wealth of photographic material reproduced on coated stock, illustrations that include historic prints as well as color plates of modern trains in action, diagrams that amplify the definitions of track composition and position of signal lamps. If time capsules are as popular in England as they are here, transportation officials may find in *Britain's Big Four* and *The Permanent Way* the answer for the generations to come. Here is railroading from 1825 to 1947. —E.M.K.

FIDDLETOWN & COPPEROPOLIS RY.

No. 1 The "Fiddletown Bugle" Reports that a Gay Time Was Had by All at the F&C's Annual Wildflower Excursion

by Carl Fallberg

On the Spot

ROUNDHOUSE OBITUARY pictured on page 141 of our March issue came from Arthur B. Armes, but the circular itself was furnished by W. D. Lumbard, 400 22nd St., Sacramento, Calif. The March issue erroneously credited it to Mr. Armes, who writes us that the circular appears to be the product of a boomer printer, in collaboration with some nutsplitters.

Says Mr. Armes, "When the mickynicks knew final plans had been made to remove the roundhouse to Roseville, they decided to have a celebration. The typographical craftsman grabbed a stick of type and ran off a few humorous announcements. One line on the 40-year-old handbill reads: 'Drays and Wheel-barrows will be ordered at 12 o'clock, Midnight.' I pondered long and deeply on that. Finally, I figured it out: The vehicles were carryalls for any soused so-called mourners, who at the close of festivities were unable to get home under their own power.

"Why was the roundhouse moved? We go back to the year 1866. At that time, the California Central Pacific construction crews had started blasting with black powder through the granite rock defiles for a right-of-way over the Sierras. The survey engineers decided on a spot called Rocklin at the base of the snow-crested mountains, an ideal location for a rail supply dump and engine sheds. The surrounding country was covered with a dense forest of ambrosial-smelling pine and fir trees, ensuring a plentiful and handy supply of fuel for the 20-ton woodburning locomotives and the booster engines needed to make the stiff grades with rail material as the work progressed.

"A few years later, two ribbons of iron spanned the continent. But since that time, the mountain grade has been reduced with cutoffs and tunnels. There are now 17 tunnels between Rocklin and Norden.

"Speaking of cutoffs, 18 miles east of Roseville is Auburn, an old gold-mining town entered at one point through a deep canyon-like cut in the hillside, blasted out over 80 years ago by the Central Pacific Chinese workers. That right-of-way was bypassed by the Espee, which took over the CP properties in April of 1885, and the former roadbed is now an oiled-surface county road.

"You will go far to find another stretch of track as tough as the route over the Sierras. Here the double track of the Overland Route lifts 7000 feet in crossing the mighty Sierra Nevadas. The distance is 156.2 miles over the eastward track. The elevation at Roseville is only 162. At Norden, 80 miles to the east, the rail lifts over a mile, and the grade varies from 79 feet to 132 to the mile. Rocklin, 4 miles east from Roseville, is the first station.

"Prior to 1908, the one line between Roseville and Rocklin had a 3 percent grade. The second track, completed in 1908, boasted a grade of only, 1½ percent. With the improved track facilities, the company determined to abandon Rocklin in favor of the subdivision point of Roseville.

"An oldtimer asserted, 'The reason the Espee shifted their pigpen to Roseville was on account of the high taxes assessed against the railroad's property by the town of Rocklin.' His was the parroting voice of the mourners of the passing of the roundhouse, actually not the rail workers there, but the Rocklin business men, who gloomily watched a big monthly payroll leave them and go to Roseville.

"The management's foresight for the company's expanding business needs was shown by their selection of Roseville, strategically situated at the junction of the great Sacramento and San Joaquin

valleys, which extend north and south through the heart of vast fruit and vegetable growing districts. At Lincoln Street Crossing, in the center of the town, there are 8 tracks, including the main iron. They're busy most of the time. An underpass to allow free movement for pedestrian and vehicular traffic is being jointly planned by the Espee and the Roseville city dads.

"The magnitude of the various train movements during the vegetable and fruit season is revealed by the fact that as many as 112 mixed trains pass through the Espee yards in a single day. The freight yards are the largest on the Southern Pacific Lines."

* * *

DINKY pictured on one of our Christmas cards reminded B. A. Thomas, 10908 Dalerose Ave., Inglewood, Calif., of holiday episodes in his boomer past.

"All that picture needed," he says, "was 'Great Northern' plastered on the side of it. I stole one of those dinky cabooses once from the Wilmar Division on the Great Northern—and drew 10 brownies from George Stewart, our assistant super of the Breckenridge Division. Some of those little cabooses had heating stoves with an oven large enough to roast some farmer's turkey borrowed for the occasion. They leaked like a sieve and were rougher riding than a camel, and ideal only for bedbugs. Several times I've been riding along behind a drag and the wheel would jump the track, but before you could pull the air, they'd bounce back on the rails again.

"I came out of Larimore, N. D., one day on a stock train that had 17 stock men with it. I asked the yardmaster to give us an extra caboose for these men to ride in, but he refused. My rear brakeman, Mike Coyne, and myself, made 19 men in the dinky. We were so crowded some of us had to stand. Our train consisted of 55 cars of livestock and 20 cars of ballast—and the tough part was, we were about 20 hours getting over the Division. Those hungry, tired shippers were so indignant when we arrived at the terminal in Breckenridge that they refused to go further and turned their stock over to us.

"Another time in Larimore, I was braking for Conductor McMullen when the yard crew switched our dinky to the west end of the yard, and there we stood in a blizzard for 2 days and nights, our only shelter from the wind and snow a switchstand. The first night we took turns keeping the fire going, but even with the stove red hot the other end of the car would be cold. All the heat was going out the cracks and the cupola. We were fully a mile and a half from the lunch counter, but luckily we had a small supply of grub and plenty of coal.

"The next morning, armed with a wrench, we went prowling the caboose track at the other end of the yard. A slight tap of the wrench on the window in the door of one of the cabooses gave us entrance. We found a few cans of frozen food and half a dozen cheap blankets which we took back with us. We lined the dinky's walls and the cupola with the blankets and from then on we did all right.

"These dinkys were built low and narrow. If there happened to be a big old high furniture car at the rear of the train, we couldn't see over it or around it. When this happened, which was frequently, the head end couldn't tell, especially in bad weather with a train of a hundred to 150 cars, whether the rear end was coming or not. But nobody worried much about Safety First in those days.

"And now," Thomas goes on, "cast your minds back to New Year's Eve some years ago with the thermometer standing at 10 below in Breckenridge, Minn. Right in the middle of the Tom 'n Jerrys, the dance, and the holiday spirits, I'm called for an extra east for 10:30 p.m.

"We leave town with 65 loads of grain. In those days on the Great Northern the conductor had to ride the head end if he wanted to get over the road. Towns were 3 to 5 miles apart on the Division—with a red board out at every station. We

headed in at Campbell, 12 miles out from our starting terminal, for No. 3, one of Jim Hill's pet varnish jobs that rambled from St. Paul to Seattle. When we got into the passing track, we found a train in there with as many cars as we had—but their engine has cut and run back 6 miles for water at Tintah. And this engine is following No. 3 back to Campbell.

"All we can do is nose against their drag, which is almost frozen to the rail, and saw by No. 3. I had sent my head end to the east end of the passing track to line the mainline switch after No. 3 got into the clear, and to flag against that light engine when we shoved out on the main. The passing track held about 80 cars.

"I got their train shoved down far enough to hold mine, and we started to pull in. Mind you, No. 3 is standing at the depot panting away with her headlight glaring at us as though we could have avoided the delay. My train was getting pretty stiff and our engine was laboring to get her in. I could see the lantern of the rear man standing at the switch when, suddenly, the air hose burst—and everything came to a stop.

"What had happened? A flange on a wheel had broken off and had left the rail at the frog. From there it rode the ties until it reached the scale located on the passing track. When this 80,000-capacity car, loaded with wheat, hit the platform of the scales, it went right through—and we stopped.

"There I was, my hind end sticking out on the mainline, No. 3 being delayed more and more, my engine shoved in between 2 drags . . . and the New Year's bells in all the churches ringing out something about peace and goodwill to men. . ."

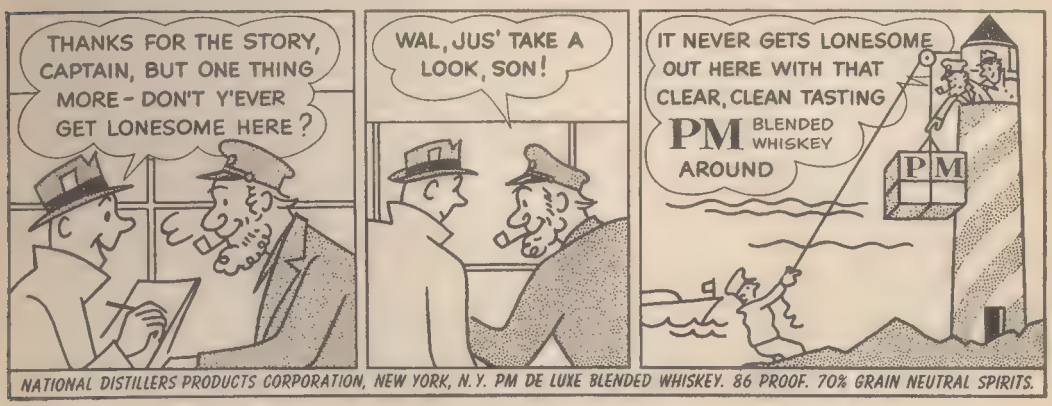
* * *

WHEN telephone and telegraph wires between Parsons and Oswego, Kans., a 14-mile stretch on the Katy's busy mainline, went down under sheaths of January ice, the road found itself unable to dispatch its trains. A pair of cabooses equipped with 2-way short-wave radio, did the trick, however, and incidentally added a new first to the Katy's achievement record.

One of the first railroads in the Southwest to use short-wave equipment for end-to-end communication, MKT is certainly the first pike in its part of the country to adapt radio-equipped rolling stock to dispatching. Only once before, when 2 NP Locomotives served to direct traffic over the 9 miles of line on the storm-bound Elk Run-Big Lake, Minn., trackage, has short-wave radio been called upon to stand in for all other forms of communication.

* * *

THE STORY of the Old South Park may be told and retold until Judgment Day, but never more knowledgeably than in the forthcoming *Denver, South Park & Pacific* by M. C. Poor. A 10-year research and writing project, Mac Poor's history encompasses the corporate struc-


THANKS FOR THE STORY, CAPTAIN, BUT ONE THING MORE - DON'T Y'EVER GET LONESOME HERE?
WAL, JUS' TAKE A LOOK, SON!
IT NEVER GETS LONESOME OUT HERE WITH THAT CLEAR, CLEAN TASTING PM BLENDED WHISKEY AROUND
PM
NATIONAL DISTILLERS PRODUCTS CORPORATION, NEW YORK, N.Y. PM DE LUXE BLENDED WHISKEY. 86 PROOF. 70% GRAIN NEUTRAL SPIRITS.

ture, construction, the lore and operation of this most famous of Colorado narrow-gages.

This volume, like the road it extols, is a unique venture: a book that outgrew its covers before publication. The 600 pages of large-sized coated stock it required proved too heavy an investment for the Railway & Locomotive Historical Society, its intended sponsor. Its appearance next fall will be due to the enthusiasm and efforts of the Rocky Mountain Railroad Club of Denver.

Ronfor painting for new South Park history

Sixty-five years ago DSP&P Nos. 54 and 64 looked like this. The 64 is on the mine siding and 54 is jogging the high iron between Little Mount and Nigger Hill

In preparing his book, the author did not end his search in libraries and museums: he wrote and visited numerous South Park railroad men for first-hand impressions of the old days. Their tales, like Andy Nelson's narrow escape at snow bucking and Ed Haight's seven days and seven nights in a Woodstock snow slide, appear just as the oldtimers dictated them; and when Charlie Squires saw the finished manuscript, he penned a special poem for its pages.

To illustrate the book, collectors offered Mac Poor their best; among the 200 photographs included are some by Jackson, Mellon, McClure, Westerman and other famed early-day photographers which have never been published. In addition there are sixteen maps, charts and complete locomotive rosters of South Park and Colorado Central n.g. equipment.

Denver, South Park & Pacific will not be available for some months to come. A deluxe edition of 1000 copies, registered and authorized by M. C. Poor, is planned, and it is possible for readers who mention Railroad to place orders now for $10 per copy. After publication the price will be $12.50.

* * *

STILL in reminiscent mood following his successful tale in our March issue *(Death at the Throttle)*, Haywire Mac has thought of another exception to the taboo against wreck talk among railroaders.

This one, as Mac tells it, is both outlandish and funny; but it is something else as well—appetizing.

"Take the time," he begins, "an express train was derailed in a shallow cut just west of Smithville, O. The engine turned over, but the crew escaped by some cockeyed miracle with only a few trivial bruises.

"I was called for the hook, out of Alliance, around 11 p.m., and we were on the scene shortly after midnight. It was the damndest mess ever spread over anybody's right-of-way. The 14 express cars that were the consist had been loaded to the roof with oysters. Two or 3 cars next the engine were filled with oysters in the shell, packed between layers of seaweed in barrels.

"The rest of the cars held oysters in big wooden tubs of 8- or 10-gallon capacity. The coach that had been hooked for the crew to ride in was still safe on the rail.

"The wooden cars had been smashed to splinters, both mainlines and the westbound siding were blocked, and that shallow cut had been turned into a lake of oysters. They were ankle deep on the high spots and the wreckers wading

around in hip boots found plenty of low places where the slimy mess poured over the tops of their rubbers.

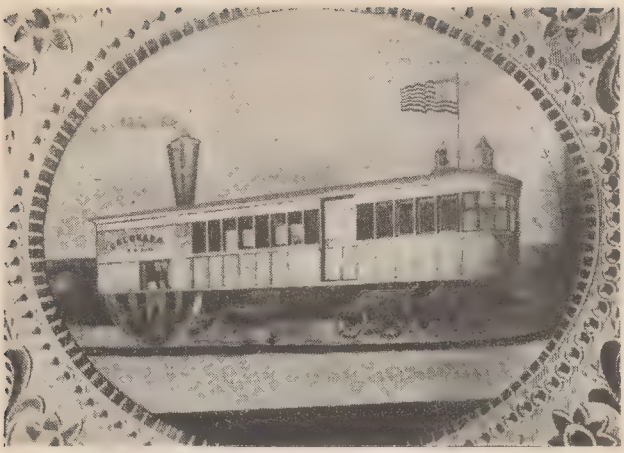
"The entire roof had been sheared off one car and the roof lay upturned like a huge boat, level full of oysters, with dozens of emptied tubs floating on the surface.

"The wreckers slipped and floundered and wallowed in the goo as they fastened their hitches and they were all soaked to the hide within 20 minutes. Fortunately, it was a real Indian Summer night in early October with a full moon to light the scene. The boys tried wearing slickers but the oysters stuck to the oilskins in such quantities that this gear was soon discarded. And the shells that were mixed into the mess cut their boots to ribbons.

"There was just one redeeming feature; we all got all the oysters we could eat. The Alliance hook, commanded by Nate Motz, was famous for good feeding and old Charlie, the cook, really went all out on the oyster deal. Several unbroken tubs were moved into his car and he got out the big square steel skillets that had been built to his own specifications. A couple of us hiked back to Smithville and bought all the crackers in the general store and pretty nearly all the lard. The crackers were rolled into powder, cornmeal was added, and a couple of cases of eggs were whipped up. Old Charlie stood over that range for hours and I don't believe any man ever fried more oysters in one shift. They were almost as big as the palm of your hand and we ate until we were just about ready to bust."

J. R. Adams

Tripped on a frog, this CNR train broke in two at the St. Polycarp diamond and the two sections rode side by side down the parallel tracks for half a mile



Bernard Kobel Collection

Tin-type in a gold frame is highly ornamental, but what the dickens was the *Colorado?* Other lettering reads "1862" and "R. D. Ross"

LOOKING for pictures of old Western engines," writes H. A. Booksin, no address given, "I was delighted to find your excellent article on Tehachapi (Feb. '49). On page 23 is a photo of old No. 5 labeled the San Francisco & San Joaquin Valley's *San Mateo.* According to Gilbert H. Kneiss's *Bonanza Railroad,* this engine was originally No. 5 of the old San Francisco & San Jose, the *Charles McLaughlin,* built by Cooke in 1864, renamed the *San Mateo,* becoming No. 5 of the Southern Pacific of California, and being scrapped in 1891. This was years before the San Francisco & San Joaquin came into existence."

* * *

A BOOMER named Henry W. Stager, rough, tough and rowdy, fired twice for violation of Rule G, is revered today as the grand-daddy of the Railroad YMCA movement. According to John A. McCarthy, 1649 E. 86th St., Cleveland 6, O., Stager was a train dispatcher in Cleveland Union Depot. He had drifted from one road to another during the hard days that followed the Civil War—link-and-pin days peppered with red-eye, gambling, and sudden death.

One Sabbath afternoon in 1872 a change came over Stager. He "got religion" at a Cleveland YMCA rally, renounced the Demon Rum, and joined the small but fervent Bible-study groups that met in the office of George Myers, station agent. One of these meetings was interrupted by a commotion outside. Pushing his way through a crowd in the depot, Stager saw a man's mangled body.

"Who is it?" he gasped.

"Oh, only a railroader," came the reply.

Stager was shocked at the callous indifference of this reply. He decided something should be done about the public's attitude toward railroaders. First he enlisted Myers' aid. Then he and the station agent called on J. H. Devereaux, general manager, Lake Shore & Michigan Southern (now New York Central). Together they told the brass hat that train and engine men were exposed to unnecessary hazards on their end-of-run layovers. They convinced him that many serious accidents were caused because crew men, for want of better places to go, were often obliged to spend their leisure hours in saloons, gambling dives, and other disreputable spots. They pointed out that the entire railroad would benefit if a "home away from home" could be provided for employes.

Devereaux agreed to this idea. On behalf of the LS&MS he gave Stager and Myers the use of a "reading room" in the depot with $3000 for expenses, and offered to pay half of a secretary's monthly salary, the YMCA to pay the other half. The new service was called the Railroad YMCA. George W. Cobb became the new Railroad YMCA's first secretary.

The room was equipped and opened April 14, 1872. Cobb reported that during the following month 1695 men used it, 45 of them to write letters, and one book was added to the library. During that month a cripple "entirely destitute of means and friends" was given free meals

and lodgings, many religious tracts were distributed, and an outdoor picnic was held. The Railroad "Y" was on its way.

At the present time, an average of 50,000 men a year from at least 49 railroads pass through the doors of the 180 Railroad YMCA's in the United States and Canada. Fifteen million meals, almost 4 million beds, and close to 3 million baths or swims are provided yearly at moderate cost. The annual budget of $7,800,000 is administered by 325 paid secretaries and 11,480 volunteers.

The old Union Depot in which this movement started still stands, with minor alterations; the Pennsy uses it. Stager later became a trainmaster, then a Western Division superintendent; after that his trail peters out.

* * *

VIOLENCE flared up not long ago when the Argentine Government took the operation of Argentine railroads over from the British. On the new regime's first day, angry passengers threw a conductor off his train, and during the week six other trainmen were beaten up. The passengers resented the new rule requiring them to buy tickets at stations before boarding a train, under penalty of a $4 fine for purchasing a ticket aboard the train. To enforce the rule and protect the trainmen, the government assigned two husky policemen to each conductor as he made his rounds.

BECAUSE of its basic nature, one of the first industries the planners move against is the railroad," declares W. G. Vollmer, president of the Texas & Pacific. "Whenever they succeed in taking the railroads over, then they are prepared to move against other basic industries. That is the pattern. With a few scattered exceptions, the railroads of the United States are the only privately owned and operated railways in the world today. All of the others are owned and operated by the state—usually at a cost to the taxpayers.

"Our own experience in World War I reflects the spectacular failure of government operation of the railroads, as well as the cost to the taxpayers. Aside from a deterioration of both service and equipment, the government operation experiment set the taxpayers back 2 million dollars a day.

"Contrast this with the operation of the railroads under private management during World War II. The records show that the services of the railroads did not bog down as they did in World War I, but that they handled the largest volume of freight and passengers in their history. In addition, they paid more than 3 million dollars a day in Federal taxes.

"Additionally, the railroads pay state and local taxes amounting to some 250 millions dollars a year. All of this money would be lost to the towns, counties and state under a socialized rail system."

AT LAST! A DRESSING AMERICA'S BEEN WAITING FOR

KREML KREME Dressing

MADE ESPECIALLY FOR STUBBORN HAIR

IMPORTANT: KREML KREME never leaves any white flakes or sticky residue on hair as so many creamy dressings do.

You can't beat this sensational new KREML KREME to control hair that won't stay put. Marvelous after shampooing — a *real test*. Also has added advantage of relieving dryness of BOTH hair and scalp — removes itchy dandruff flakes.

Chesapeake & Ohio

From 19 million tons of coal to 25 million in a year is the aim of the C&O. Their third coal pier at Newport News, Va., is the low-level, belt-conveyor design

WILLIAM E. HAYES, formerly known as "Boomer Bill," onetime editor of RAILROAD MAGAZINE, who had been Assistant to the President on the Rock Island since Jan. '48, has recently moved another step up the official ladder and is now Executive Assistant with jurisdiction over the road's public relations department. Bill is a veteran railroader and journalist. As director of the CRI&P exhibit at the Chicago Railroad Fair last year he won much favorable comment.

* * *

CHICAGO'S Railroad Fair, which closed last fall after attracting more than 2,500,000 visitors during its 76 days, will reopen the latter part of next June with an enlarged grandstand and many new exhibits, announces Maj. Lenox R. Lohr, president of the 1948 fair. The 1948 pageant, *Wheels A-Rolling*, will be presented again this year.

* * *

KILROY, J.B. King, Bozo Texino and others whose names adorned many a boxcar had nothing on James F. Kettring, a Santa Fe car inspector at San Bernardino, Calif. We learn from William B. Garner, 501 Arrowhead Ave., San Bernardino, that Mr. Kettring had a pictorial autograph resembling an overhead view of a cat drinking out of a saucer. The tail is shaped like a J and the "saucer" is ring-shaped. This autograph, J. Kettring (J cat ring), was chalked on a multitude of boxcars moving through the "San Berdoo" yards before World War II. Readers interested in following up the subject of boxcar art may consult Arthur W. Hecox's article on the subject in our July, 1939 issue.

* * *

ADVICE on how to get a railroad job is wanted by Harry F. Wintermoyer, Box 453, Charles-Town, W. Va., who is especially interested in the B&O and Pennsy.

* * *

NORTHERN PACIFIC rotary snow plow pictured on our Jan. '49 cover and inadvertently miscredited to the Great Northern reminded George E. Hall, Rte. 3, Silverton, Ore., of his acquaintance with the inventor of the rotary plow, Louis Bergendahl.

"In the summer of 1895," he writes, "my father, John Hall, was superintend-

ent of construction of two Portland, Ore., city reservoirs. He offered me a job on the works. I was then 15. I was assigned to a kindly grayish old engineer, Mr. Bergendahl, who handled one of the steam engines. My job proved to be entertaining as well as profitable, since from this fine man I learned many interesting things, including Bergendahl's early experiences in railroading and his invention of the snow-fighting machine.

"It was my good fortune to view at his home the original model, a masterpiece of modelmaking. The old fellow was broken-hearted over the fact that, through some unfortunate dealings, he failed to reap a financial reward for his great invention. Upon completion of the Portland reservoirs, Mr. Bergendahl helped to build the switchboards in the main transformer station of the Portland General Electric Co. I enjoyed visiting him there. He died a few years after completion of this work and is buried in Riverview Cemetery, Portland. I believe his last railroad job was as water-supply inspector on a western division of the Oregon-Washington R. R. & Navigation Co. (now Union Pacific)."

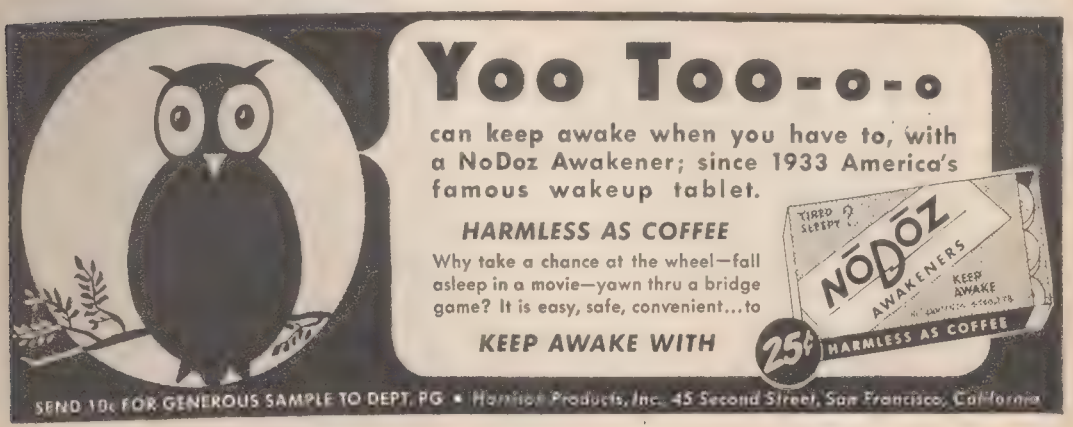
* * *

BROOKLYN'S "mystery tunnel" bobs up in the news ever so often. Various folks who think they have just discovered something not known to the general public inform the borough president, John Cashmore, of the existence of this subterranean passage beneath Atlantic Avenue from Court to Hicks streets, not very far from the Long Island Rail Road's Brooklyn Terminal.

Our own *Electric Lines* editor, Steve Maguire, has sent us a newspaper clipping which tells the story of this tunnel. Among the suggestions offered to Mr. Cashmore is that the 1500-foot passage might serve as a parking lot for automobiles, a vault for storing official documents now overflowing from basements and warehouses, and a pistol range for cops. There are also tips that the dank location has been used for growing mushrooms and —heaven forbid!—as a hiding place for murder victims.

The tunnel is really not mysterious. It was built for half a mile in length by the LIRR more than a century ago and was sealed by court order, never to be used again, in 1861 at the outbreak of the Civil War. Not since 1936 has anyone set foot in it, but Brooklyn officials pooh-pooh the theories that it contains anything but mold and darkness. Why was it sealed up? Nothing romantic in the answer. Merely to placate irate housewives who disliked having locomotive smoke and cinders blowing over their lines of freshly-washed clothes.

Unlike Philadelphia's "mystery tunnel" at 12th, 13th and Locust streets, this one was never part of subway construction. It served the LIRR for 15 years, permitting


Yoo Too-o-o
can keep awake when you have to, with a NoDoz Awakener; since 1933 America's famous wakeup tablet.
HARMLESS AS COFFEE
Why take a chance at the wheel—fall asleep in a movie—yawn thru a bridge game? It is easy, safe, convenient...to
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trains to reach the East River at the foot of Atlantic Ave. to receive passengers arriving from New York by ferry. In 1859 a court decision upheld Brooklyn's Common Council in forbidding the operation of locomotives inside the city limits. During the next two years the city paid the LIRR $125,000 for the tunnel and other properties, including the site of the present terminal at Flatbush and Atlantic avenues. Today, the city owns that depot and rents it to the railroad, which after the Civil War was again given the right to run trains in Brooklyn.

In 1862 the Brooklyn Common Council authorized the leasing of that tunnel to Charles Goodwin for 20 years at $500 a year as a place to store merchandise, but the deal was never consummated. Then in 1936 the police received a mysterious tip that the tunnel was being used by gangsters as a crypt for murder victims. But after a hole had been blasted in the roof and ladders were lowered, no corpses or other suspicious items were found, and the tunnel was resealed. Previously, in 1916, when the tunnel had been last entered, the only souvenirs found were one rusty iron railroad spike and a small piece of decayed tie.

The tunnel walls are substantially built of massive stone 6 feet thick and are 10 feet high, with a brick arch 22 inches thick, the whole laid in hydraulic cement. George B. Fisk, an early LIRR president, wrote hopefully: "This great work . . . will greatly facilitate the operations of the company, obviate many dangers, and as a work of art will embellish the City of Brooklyn." But the embellishment became first a nuisance and then a mystery. Its future is as dark as the tunnel itself.

* * *

FOLKLORE of the Baltimore & Ohio is an endless source of interest for Miss Mary Talbott Stevens, B&O research librarian, 117 B&O General Office Bldg., Baltimore 1, Md., who writes:

"I could tell you how Hill Hand, now retired, veteran engineer and inveterate tobacco-chewer, spat out of his cab window one morning down on the head of the general manager. Also of a cat at Mt. Royal station who refused to accept his dinner from anywhere except the *Capitol Limited* dining car. And of another cat there who got himself so dirty hunting rats in the coal cellar that the late President Dan Willard thought we should

They waited too long. Chinese Nationalist soldiers delayed at the Pukow Station prior to the Communist victories in February

Wide World Photos

keep him clean. This was impossible, so we made a set of jumpers and jeans, like a miniature locomotive engineer, which he wore when Mr. Willard visited the station.

"Then there's the story of the *National Limited* rounding up cows for a man in Indiana. And one about a cradle made during the passing of a parade in 1828 when the B&O's first stone was laid, a cradle which by devious devices has since come back to the railroad. I am reminded also of Engr. Ephraim Provance, who saved Annapolis, Md., by the record run of a locomotive bearing fire-fighting equipment.

"Here are a few more: A West Virginia mountaineer one night boarded B&O train No. 4 at Grafton, W. Va. Train-riding was not unknown to him but Pullman cars were. Next morning, passengers in the sleeper were awakened by the loud ringing of a Big Ben alarm clock in an upper berth. It was 5 o'clock. Heads poked out all along the aisle, and what passengers said to him would have to be censored for publication. At length the conductor asked the hill-billy why he had set the alarm. The mountaineer apologized:

" 'I'm used to gettin' up at five an' I didn't think the porter would be up in time to call me, so I brought along Gabriel,' Gabriel being the clock."

Miss Stevens tells us about another West Virginian, Henry Grandon of Parkersburg, a retired B&O track laborer who hasn't had a sip of water in more than 50 years—or so he says. It seems that before he retired from his job, Grandon invariably started his day with a big pot of black coffee at breakfast. Then he filled a gallon jug with coffee and took it out on the road. At intervals he drank it. When the day ended, he had drained the jug and was on his way home, lippity-clip, to set his coffee pot boiling again. Examined for retirement at age 70, he was given a clean bill of health by the company doctor. "Last time I heard of Henry Grandon," our correspondent adds, "he was past 80 and still drinking coffee."

* * *

MOVIES are playing an increasingly large role in railroad publicity. *Within the Oval,* latest New York Central release, takes its name from the road's emblem. This 16-mm. film, 21 minutes of fast colorful action, is being shown to employes. It will be made available to clubs and other groups. The theme is railroad jobs, showing how the various occupations fit into one another to make the wheels go 'round.

Two other new releases, *At Your Service* and *Along the Santa Fe Trail,* both with sound and color, may be procured on a free-loan basis from the Santa Fe Film

Shocking Facts about PIN-WORMS

You may think that Pin-Worm infection is rare and strikes only "careless" families —that, therefore, your children are safe.

Don't you believe it! Medical experts report that at least *one out of every three persons* examined, adults and children alike, was a victim of Pin-Worms. And this embarrassing, annoying condition can spread through entire families.

There's no need to take chances with this ugly pest. A medically approved, scientific treatment now destroys Pin-Worms easily and effectively. This remedy is **Jayne's P-W Vermifuge** developed by the famous Jayne Co., specialists in worm remedies for over 100 years.

So watch for the warning signs, especially the tormenting rectal itch. Then ask your druggist for **P-W**, the small, easy-to-take tablets that act in a special way to bring real relief from Pin-Worms.

Just Remember: P-W ® for Pin-Worms

Historic caboose No. 18058 and Conductor Jim Bullard (See *On the Spot,* March '48) as they retired amid special ceremonies last January. No. 18058 ranks first among the cabooses now reposing in the St. Louis Museum of Transport because of its record as the original caboose-business car and source of a goodly portion of Rock Island on-the-line business. Conductor Bullard ranks first among rocking-chair rails for his 50 years of service, 45 of them as the brains of an RIL freight run

Rock Island Lines

Bureau, 80 E. Jackson Blvd., Chicago 4, Ill. *At Your Service* is the dramatic story of Santa Fe freight service. Running 25 minutes, it covers the road's history from the 18-mile beginning in Kansas to the 13,000-plus miles of network today. Among the modern improvements shown in action are centralized traffic control, radio-telephone, the rail-detector car, the ballast-cleaning machine, steel-sheathed "reefers," and new-type livestock and grain cars. The other film, *Along the Santa Fe Trail,* is a 35-minute portrayal of passenger service.

* * *

SPEED. "This will interest followers of Donald M. Steffee's *Annual Speed Survey,"* writes Jim Scribbins, 1609A W. Center St., Milwaukee 6, Wis. "Last winter some residents of Fox Point, a Milwaukee suburb, began objecting seriously to the speed of Chicago & North Western '400' streamliners through their community. Their protests grew into a request for enforcement of the state law governing train speeds over grade crossings.

"This law restricts trains to 15 mph. over unguarded crossings (those protected only by a sign), 20 mph. over crossings protected by flashing or wigwag light signals, and 30 mph. over crossings protected by a watchman or gates within city limits. There are no restrictions in open country. Fox Pointers object to fast trains as a hazard to school children crossing the right-of-way.

"Engineers of the Public Service Commission timed certain trains throughout the state and found one of them made as much as 93 mph. over a 15-mph. crossing. Even a Green Bay & Western freight was cited for passing over a crossing at 29 mph. The PSC then asked the state's attorney general to enforce the train-speed law, providing fines of $10 to $1000 for each violation, and the attorney general brought suit against 4 railroads to collect $13,000 in fines. This case is now pending.

"How far the state intends to go in enforcing the law remains to be seen. Strict enforcement would bring about such a low average train speed in Wisconsin that even buses would outrun the trains."

* * *

RAILFAN excursions are still far below their level of pre-war frequency, but now and then such a trip is operated with the old-time zest. For example, the California-Nevada RR. Historical Society sponsored an excursion over the Western Pacific to Stockton via the Stockton Terminal & Eastern over the entire 16 miles of ST&E, reports Grahame H. Hardy, president, C-NRHS, 2046 E. 14th St., Oakland 6, Calif. Unusual features included the use of a Vista Dome car and the fact that this was the first passenger train operated via the ST&E since 1918. The ST&E used its old One-spot, an 8-wheeler built in 1867 as well as a Diesel.

* * *

FIRST railroad in the country to promote skiing by television was the Boston & Maine which featured Peggy Sayre Marshall, a skiing expert, last winter. The program's musical theme was *The Snow Train,* composed by a Maine Central locomotive engineer and his wife, Mr. and Mrs. Jesse Richardson. Copies of this song in sheet-music form were distributed to patrons of the B&M's Sunday Snow Train. It was also the theme song of a B&M winter sports movie.

* * *

TRANSPORT in New York City is the theme of G. W. O'Connor, former New Haven railroader, in his book, *Railroads of New York.* The 128 pages are divided into four parts: the passenger carrying railroads, the freight roads and terminals, the rapid transit system, and rail oddities in the metropolitan area. There are more than 100 large half-tone engravings from photographs by such experts as Harold Fagelberg and Walter A. Lucas. Maps show the locations of all important points. Railfans will be interested in the special prepublication offer to them by Simmons-Boardman, 30 Church St., New York City.

* * *

YOUR RAILROAD, a new 21-page illustrated booklet put out by the Missouri Pacific, is designed to acquaint employes and their families with facts about the MoP which concern them personally. The foreword by P. J. Neff, Chief Executive Officer, states: "The biggest single asset of the Missouri Pacific Lines is not its tracks, buildings, locomotives or cars, but it is, and always will be, the men

Sovfoto

New type of electric lent cheer to the 30th anniversary of Russia's so-called Socialist Revolution. The place? Novocherkassk

and women who are the Missouri Pacific family." With this viewpoint we agree. *Your Railroad* is a nice job of management-employe relations and promotion.

* * *

BESIDES being a poet, Henry W. Longfellow was a railfan of sorts. A century ago he wrote in his journal: "I see the red dawn encircling the horizon and hear the thundering railway trains radiating in various directions from the city (Cambridge, Mass.) along their sounding bars, like the bass of some great anthem—our national anthem."

One of the most dramatic incidents in Longfellow's life occurred at a railroad station, a shabby little building at the Washington, D. C., end of Long Bridge. The poet was waiting there on December 5, 1863, with his son Ernest, 17, for a train to pull across the Potomac with his elder son, Charles, 19. Charles had run away from home to enlist in the Army of the Potomac and had been severely wounded in the Mine Run campaign. For two long days the poet and Ernest had looked in vain for the trainload of casualties to arrive.

In Longfellow's pocket lay the telegram which had brought him down from Cambridge post-haste. He worried constantly about Charles. Returning to his hotel room on the second day, he was aroused at midnight by another telegram, which read, "Wounded will be sent up tomorrow." So they hung around the depot again the next day. Years afterward, Ernest described that wait as "punctuated by the monotonous clicking of the telegraph. If there were any important messages going through, it would have been easy for station loafers or spies to read them off."

Just before the troop train pulled in, a middle-aged man dressed in military overcoat, high boots and corduroys, stepped up to the poet with a smile. "Are you Professor Longfellow?" he asked. "Give me your hand. I am Dr. Bowditch of Riga; have translated your *Hiawatha* into Russian. When I came to this country I wanted to see three men—yourself, Agassiz and Emerson."

At length the train, a balloon-stacked engine and a baggage car, arrived. Sixteen invalided Union officers were lying or seated on the car's straw-covered floor. "Pretty hard going for wounded men," Ernest recalled later. "Not even a day coach. As the poor wrecks were lifted out, we finally came upon my brother. A more forlorn, bedraggled and wretched being it would be hard to imagine. His wound had not been dressed for days, and before reaching the train he had been bumped and banged over the roads for two days in an ambulance, with hardly anything to eat or drink. How those men lived through it is hard to see. Some did not."

* * *

ANSWERS to puzzle on page 6:

(2) FIDDLER

— FRED
= LID
+ SEE
= DIESEL

(3) BABOON

— NAB
= BOO
+ CASE
= CABOOSE

(4) ANTEATER

— EATER
= TAN
+ RACK
= TANKCAR

—Webb B. Garrison

* * *

HINKLEY & WILLIAMS engine pictured in our Sept. '48 issue, page 99, caught the eye of an oldtimer, George W. Nutt, 222 4th Ave., N.W., Oelwein, Iowa. That engine used to run on the Burlington, Cedar Rapids & Minnesota (now Rock Island) in the days, 1884-'89, when he was working in the road's Cedar Rapids back shops as a welder's apprentice.

Mr. Nutt recalls: "An old engineer named Simpson used to pester me for

brass acorns while I was running an engine lathe. I was told that he was a stockholder in the company, so I gave him what he asked for. Simpson took great pride in the gleaming brasswork on his engine and the gaily-painted, cast-iron, colored boy that stood on his pilot. When the order came to paint this brasswork black and get rid of the adornments, it broke the old man's heart. I really believe he died before his time as a result of that order. His cast-iron figure was removed from the engine and used for a hitching post. I hid one of his brass jacket bands in my stock cupboard. Wait till I tell you what happened to it.

"There was a Musquake tribe of Fox Indians on a reservation 30 miles west of Cedar Rapids. Those redskins would camp and hunt muskrats close to our shops. The car repairers stored their traps and canoe over the winter. Some Indians would wander through the shops. I gave a couple of stalwart young bucks a piece of that brass band from Simpson's tea kettle. They grinned and called me a good papoose.

"One day, six months later I was surprised to find myself surrounded by Indians. I was scared, not of them but of the general foreman, who seemed to be enjoying the wild west show at my expense. He watched me long enough to see that I did not present the redskins with the lathe. Then, like a good sport, he turned his head and walked away. Well, I gave the chief the rest of that brass band. I said, 'Pucka she,' twice, which meant in plain English, 'Now get the hell outa here!' and they all filed out in a hurry with the railroad property. A few months afterward, three young bucks came back and lined up around me to display their shining hatbands. Each was made from the belly-band of a Hinkley locomotive, beautifully punched out in intricate Indian designs."

* * *

LAST STOP is the Reader's Choice Coupon *(page 143)*, which guides your editorial crew in selecting material for future issues of RAILROAD MAGAZINE.

Some readers use the coupon. Others prefer not to clip the magazine; they send home-made coupons, postcards or letters. Regardless of how votes are written, all count the same. Results of balloting on the March issue show as follows:

1. Burlington Route
2. Unbroken Seals, *Dellinger*
3. Death at the Throttle, *McClintock*
4. Not a Wheel Turning, *Alfred*
5. All Aboard the B&M, *Dobie*
6. On the Spot
7. Electric Lines
8. Light of the Lantern
9. Locomotives of Spokane International
10. The Iron Pike, *Easley*

Most popular photos: pages 43, 12-13

Mystery and adventure make good reading . . .
they make good listening too!

NICK CARTER
Sundays, 6:30 p.m., EST.
Lon Clark as radio's Nick Carter

UNDER ARREST
Sundays, 9:00 p.m., EST.
Police Captain Scott's adventures

GREGORY HOOD
Mondays, 8:00 p.m., EST.
Tales from his casebook

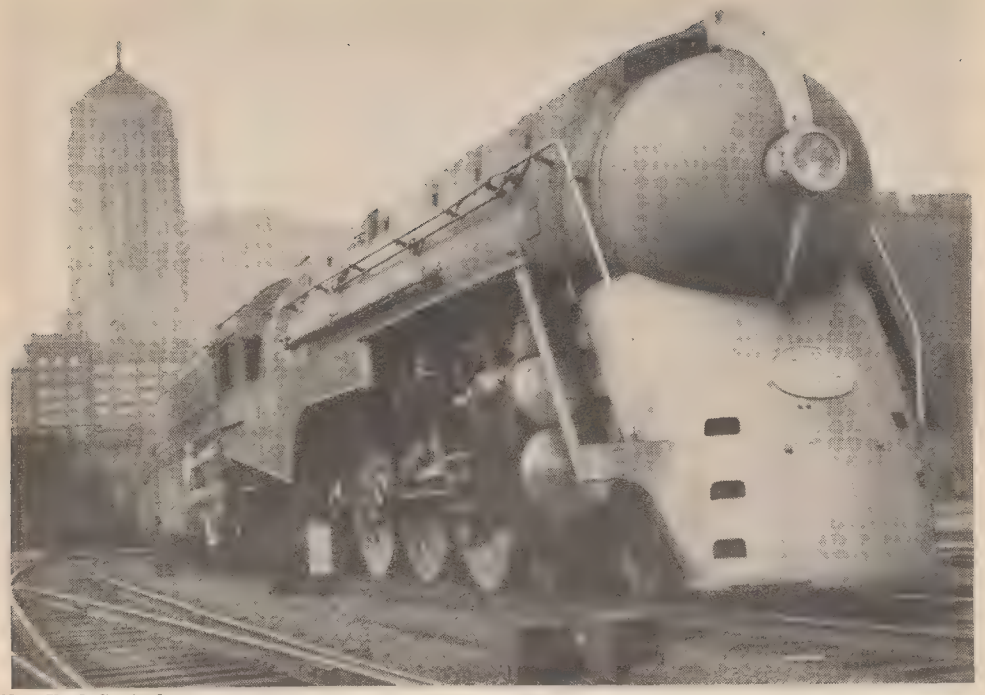
SHERLOCK HOLMES
Mondays, 8:30 p.m., EST.
Selected mystery dramas

HIGH ADVENTURE
Wednesdays, 8:30 p.m., EST.
High adventure of all kinds

There is enjoyment waiting for you in each of these exciting radio programs

MUTUAL BROADCASTING SYSTEM, INC.

Check local newspaper program listings against possible variations in broadcast schedules



New York Central

Railroad Camera Club

ITEMS sent to the *Switch List* and *Model Trading Post* are published free, in good faith, but without guarantee. Write plainly and keep 'em short. Print name and complete address.

Because of time needed to edit, print and distribute this magazine, all material should reach the Editor eight weeks before publication date. Redball handling is given to items we get the first week of each month, if accompanied by latest Reader's Choice Coupon (clipped from page 145 or home-made).

Due to scarcity of space, we prefer that no reader be listed here oftener than once in three months.

Use these abbreviations: *pix*, photos; *cond.*, condition; *ea.*, each; *elec.*, electric; *env.*, envelope; *eqpmt.*, equipment; *esp.*, especially; *info.*, information; *n.g.*, narrow-gage; *negs.*, negative; *p.c.*, postcard; *pref.*, preferably; *tr.*, train.

And these photo sizes: Size 116—2¾x4½ inches; Size 127—1⅝x2½; Size 117—2¼x2¼; Size 130—2⅞x2⅞; Size 118 or 124—3¼x4¼; Size 122 or p.c.—3x5½; Size 616 same as 116, on thin spool; Size 620—2¼x3¼ inches.

The term *tts*, refers to public timetables, unless preceded by *emp.*, when it means *employes'* (operating) timetables.

(R) indicates desire to buy, swap or sell back issues of RAILROAD or its predecessors, *Railroad Man's* or *Railroad Stories. (Specify condition of each copy.)*

(*) indicates juicefan appeal.

SWITCH LIST

JOHN W. ALDEN, Box 461, Long Branch, N. J., wants to swap local transportation tokens with collectors in this country and abroad.

(R) JACK ALEXANDER, 134 Pleasant St., Bradford, Pa., wants old copies RAILROAD; top prices for compl. yrs. good cond. Wants pix n.g., all rds., esp. BB&K K&E, TV Ry., OB&W.

M. E. ALEXANDER, Rt. 6, Palestine, Tex., has tts., emp. tts., passes, switch keys, rr letterheads, loco pix, loco bldr.'s plates to trade for passes or switch keys; list ready.

(*) CURTIS ALLISON, 130 Lakin Terr., Rockford, Ill., wants pix *City of East Troy*, Wis. elec. line.

JAMES AVERY, 331 N. Hillside, Wichita 8, Kan., is selling all railroadiana, diff. rds., tr. ords., calendars, emp. mags., emp, tts., pix, eac., $16.; write for list.

ALLEN R. BAIRD, 259 N. 10th St., Colton, Calif., has all rosters which have appeared in RAILROAD, many others. No list; state your wants.

GEO. BARTH, c/o Capt. G. Barth, 01945919, A. T. O. Bad Nauheim, A.P.O. 807, c/o Postmaster, New York, wants pix Buffalo, Rochester & Pittsburgh rolling stock, locos, pass. eqmt., etc.; esp. floor plan, diagrams pass. eqmt. Send price list.

(*) F. J. BECHTEL, 83 Water St. S., Galt, Ont., Canada, has *Loco Engineers Journals, BLF&E, Canadian Off. Guides;* tr. ords., tts., emp. tts., size 616 steam, juice

pix, to sell or trade. Wants emp. tts., pix, *Baldwin* mags.

(*) J. H. BRINCKMANN, Jr., 44 Chas. St., Metuchen, N. J., has size 116 pix most U. S., Canadian elec. lines; list, sample, 10c. Also has 35 mm. Kodachrome transparencies. Wants old elec. lines tts.

LAWRENCE E. BROWN, 5 Oak St., Waterville, Me., will sell assortment 14 pieces abdn. Maine n.g. rr tkts., canceled checks, various stationery, $2. Write for list.

(*) TERRY W. CASSIDY, 3328 S. Benton, Kansas City, 3, Mo., wants material KCPSCo., Kaw Valley, Olathe (Strang Line), other interurbans out of K.C.! has pix, trsfs. now in use. State your offers and wants.

JON CLAYTON, c/o Bethany Orphanage, Bethany, Ky., will sell to best offer *Model Craftsman*, Feb., Mar., Nov., Dec. '34; all (11) '35; Jan., Feb., Apr., May., Sept.-Dec. '36; Jan.-May '37; MODEL RAILROADER '40, unbound, good cond.

A. H. COVERDALE, 2215-15 A St. S.E., Calgary, Alta, Canada, has size 616 pix CPR 30 used in movie *Canadian Pacific*, 10c ea.; few size 616 CPR negs. to trade for other CP or small Canadian rds., negs., same size.

(R) G. R. DRIGGERS, 7405 Alycia Ave., Lakeside, Richmond 22, Va., has compl. file RAILROAD, Dec. '29-Dec. '46 for 3000 size 116 steam loco pix. Compl. set blueprints SAL 2500s, 2-6-6-4 loco for 5000 size 116 steam loco pix; won't break sets.

JAMES P. EAMES, 1867 Page St., San Francisco 17, Calif., will sell bound copies *Loco Engineers Journal*, 1896 to 1911, good cond. for best offer.

(R) BUD ELLIOTT, Rt. 1, Peebles, O., wants RAILROAD '38 to '49, *Trains*, '38 to '49, good cond. Also wants U. S. and Canadian rr pix, '49 tts., will pay mailing charge; maps foreign countries, will pay $1 ea.; wall size world maps.

(*) RALPH FORTY, 5661 N. Neva Ave., Chicago 31, Ill., sells 4 juice pix 3 ½x5 Copenhagen, Denmark, 10c ea. Allow 14 days for printing. Has 170 books CTA trsfs. to trade; wants to corres. with juicefans or tram tkt. collectors in Africa, Australia, New Zealand.

(*) J. G. GRAHAM, 2439 Funston Ave., San Francisco 16, Calif., wants to trade size 620 juice pix Calif. rds. for Buenos Aires or Bolivia streetcar negs.

HERMAN J. HAACK, 736 Orchard St., Toledo 9, O., has copy *Lake Shore & Michigan Southern Ry. System, Representatives Emp.*, dated 1900, contains 950 pgs. to trade for an *Off. Guide*, early '20s.

ALLEN HARDER, 1434 Dineen St., Martinez, Calif., wants *Trains* '41, '42, good cond. State price.

JAMES L. HAUGH, 1501 Ohio St., Apt. 1-E, Richmond, Calif., has good clear size 620, 616, 116 pix, AT&SF, SP, CN, CP, D&RG, Frisco, N&W, PGE. List, sample, 6c stamps. Wants to trade size 616, 116 negs. above rds.

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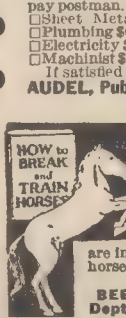

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C. A. HEATH, North Franklin, Conn., breaking up collec., Will sell or trade rr annual passes. List for stamp.

(R) ROBT. HEGLUND, 1213 Grant St., Waukesha, Wis., wants Dec. '48 RAILROAD, unclipped, in good cond.

(R) FRANK J. HERMANN, 3121 Lancer Pl., Hyattsville, Md., will sell RAILROAD, '40 to '48, excell. cond., $2.50 per yr. or all for $22; many *National Geographic, Avocations.* List for stamp.

(R) SAM HOUSEHOLDER, 203 St. Charles St., Homewood, Ala., has some RAILROAD, '39 to date, fair cond.; recent *Official Guides.* Wants *Trains,* Dec. '40, Jan.-May, Sept., Oct. '41; state price.

(R) R. PHILIP IRWIN, 121 Young Ave., Croton-on-Hudson, N. Y., wants compl. '47 RAILROAD; will trade for same compl. '47 *Popular Mechanics,* 5 odd *Pop. Science,* all excell. cond., none clipped. Wants recent shortline tts., '25 *Off. Guide.*

TED KIMBALL, Jr., 1250 N. Everett St., Glendale 7, Calif., wants to buy or trade tts., emp. tts., tr. ords., pix; esp. wants pix SP 4-6-6-2.

JULES KRZENSKI, Jr., 96 Prospect St., Southampton, N. Y., wants PRR and LIRR tr. ords. Has emp. tts,. tts., other odd material to trade.

ROBT. LOCKE, 8418 Peoria St., Chicago, Ill., has eastern and western rd. emp. tts. to trade for northern carriers. Has 3 old LS&MS switchman's lanterns to sell to highest bidder; clippings from old '03 newspapers, showing arrival, departures of trs. in and out of Chicago, 10c per clipping. Will reprint list street rys. U. S., Canada published 1892-3 if enough ords. are received.

(R) G. R. MacLEAN, 381 Grosvenor Ave., Montreal 6, Que., Canada, wants Nov., Dec. '47; Dec. '48, RAILROAD; has size 116, 127 pix most CN, CP types. He is 13, interested in contacting teen-agers for small railfan club for Westmount fans only.

(*) ROBT. J. McLEOD, 731 S. 28th St., Milw. 4, Wis., sells size 616 elec. ry. pix TMER&T, CSL, CNS&M, CA&E, many others; also negs. for sale, trade; list 1000 pix for stamp. Will sell *Model Railroaders, Trains,* many recent emp. tts. (list); also collec. excell. steam negs.

ROBT. MARSH, 10 Forest Rd., Wayne, Pa., will sell emp. tts. Reading, Phila. & Shamokin divs. '48; PRR, Phila. Term. Div. '40; New Haven Sys. 164, '47; *Off. Guide* June '46. Best offer for all.

E. MILKS, R. D. 1, Oswego, N. Y., wants info., pix Gainsville Midland RR of Georgia.

(R) GILBERT MILLER, 6601 Broadway, West New York, N. J., will sell RAILROAD, Aug. '46 to Jan. '48, good cond., 25c ea.

(*) WARREN E. MILLER, 306 Jerome Ave., Piedmont 10, Calif., will sell 2nd-class size 616 negs. SP, AT&SF, WP, NYC, Penn., IC, etc. elecs., 20c ea.; 1st-class negs. SP, UP, WP, D&RGW, C&S MKT, MoP, RI, CP, CT juice lines Los Angeles, El Paso, other cities, 40c up; indicate class wanted; all negs. sent on approval.

(*) TOM C. MIZERSKI, 327 Kaercher St., Pittsburgh 7, Pa., wants to trade juice pix, trsfs.; sends trsfs. to those interested; is new juicefan and would appreciate help from older fans in starting collec.

(R*) WM. MOLL, Jr., 205 Bay St., Neptune Beach, Fla., wants RAILROAD, Mar., May, Oct. '43; July '46; also any pix Atlanta, Ga. trolleys, esp. old Atlanta Northern Ry. cars, maps, tkts., etc.; any info. on Jacksonville Fla. Traction Co.

ROY MUNN, 765 NW 69th, Miami, Fla., wants to buy pix of controls of steam eng. and the label of controls. Write first.

W. GEOFFREY NELSON, 1273 North Ave., New Rochelle, N. Y., wants n.g. pix, negs., any size, esp. Nevada County, DRGW eqpmt.

LARRY PALMER, Wallingford, Pa., will sell *Model Railroader,* '40 exc. Jan., Sept., Nov., Dec.; '41, exc. Dec.; July-Sept., '46. Has *Trains,* Aug., Nov., Dec. '44; Jan., May, June, Dec. '45; all good cond., $6. p.p. Will buy any size pix PRR 0-4-0, 0-6-0; Rdg. 0-4-0, 0-6-0, 0-8-0, 2-8-0.

(*) DOUG PARKER, 219 Academy Rd., Winnipeg, Man., Canada, will sell or trade size 616 Canadian elec. pix; also has CP, CN, TH&B size 616 negs., med. to excell. cond., to trade for Canadian size 616 juice negs. Both lists for 5c.

H. PEARSON, 119 Main St., Ossining, N. Y., has group p.c. size gloss pix NYC, others, $1 doz. while they last. Also has bound *The Wonder Book of Rys.,* 12 color plates, nearly 300 illus., Ward, Lock & Co., Ltd., London, Melbourne; no date; make offer.

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(*) JAMES POTIN, 410 Homestead Ave., New Orleans 20, La., will pay 50c to 75c ea. for May, Sept. '48 *Model Railroader*. Has few New Orleans streetcar, bus trsfs. for sale or trade for tts.

W. G. RATTLEY, 6602 S. MacArthur, Will Rogers Field, Oklahoma City, Okla., has 3x5 pix TE linecar 901 and first car of frt. hauled over TE; will trade for pix, info., any elec. line in Texas.

(R) WALTER B. REDMAN, 8781 Arcadia Ave., Detroit 4, Mich., will sell RAILROAD, Dec. '29 to date, best cond., $80. for lot; also *Trains*, vol. IV to date, $22. Wants small pix side line 4-4-0 One-spots; advise offer, price.

(R) FRED RITTER, Jr., Tilden, Nebr., will buy RAILROAD, '32, '33, '34; Trains '43, '44, '45, good cond. Also *They Built the West* by G. C. Quiett, *Cavalcade of the Rails* by F. P. Morse; pix locos of old FE&MV, SC&P RRs. now C&NW.

(*) DONALD ROSS, 2369 S. 57th St., West Allis 14, Wis., has about 1000 pix from over 100 trac. co.'s, size 116, few 120; list, sample 10c or trade for your list, sample. Buys, sells, trades good juice negs.; has steam negs. to trade for juice or sell.

W. H. N. ROSSITER, R. R. 2, Oakville, Ont., Canada, wants *Baldwin Loco Mags.* '26 to '29; will pay cash or trade books, excell. cond.; *Science of Rys.*, 12 vols., published 1900; *The American Railway*, 1889, 450 pgs.; also wants PRR Ft. Wayne Div., Chicago Term. emp. tts. '46, '47, '48. Write first.

ROBT. ROTHE, 3220 Centra, Alameda, Calif., wants pix int. frt. trailers; also color schemes, roster Ind. RR frt. eqpmt. Cash only.

PAUL F. RULE, 1104 Wilbur Ave., S. Norfolk 6, Va., has large collec. tts., emp. tts., several copies *Off. Guide;* write for list.

(*) JIM SCRIBBINS, 1609A W. Center St., Milwaukee 6, Wis., offers tts. excell. cond. in exch. for maps U. S., Canadian cities, esp. those showing streetcar, bus lines. rrs. Wants to hear from Milwaukee Rd. fans.

(R) C. C. SEARLE, Box 454, Powell River, B. C., Canada, will sell 122 issues RAILROAD Jan. '39 to date, excell. cond., in one lot for best offer over $12.

(R) N. W. SHARPE, 72 Meadowbrook Rd., Short Hills, N. J., will buy RAILROAD, Feb. '35; *Trains* Dec. '40, Aug., Dec. '41, July '42; has builders pix to sell or trade for n.g. pix.

(R) DON SNOW, 232 Nelson Rd., Scarsdale, N. Y. wants NYC folder, *Model Railroader*, will trade '47 *Lionel* catalog or NYC shipping manual; Burlington, Rock Island tts. Will trade '41 RAILROAD.

CLAIR R. STAIRREAT, 493 Island Home Pike, Knoxville, Tenn., has size 122 pix Sou, L&N, ACL, SAL, NC&StL, B&O, N&W, C&O, CofGa., Clinchfield, many others 10c ea. List for stamp; $1 minimum purchase.

WM. H. STEVENS Jr. 10 River St., Beverly, Mass., has about 350 copies *Railway Age*, '41 to '48 incl.; will ship exp. coll. or frt. for best offer.

MAURICE C. SWANSON, Rt. 1, Box 242, Schenectady, N. Y., will sell *Car Builder's Dictionary*, '06; *Loco Dictionary*, '12, '16; *Loco Cycl.*, '22, '44; *Westinghouse Air Brake Instr. Book*, '02; *Forney's Catechism of the Loco*, Part II, '11.

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HUBERT L. TASKER, 208 E. 28th St., New York City, N. Y., will buy *Trains*, Nov. '40 to Aug. '41.

Dr. H. G. TEBO, 4243 Albans, Houston 5, Tex., wants pix army hospital cars; SP 4-4-0s.

F. N. WADSWORTH, 234 National Ave., NW, 2nd Floor, Rear, Grand Rapids 4, Mich., wants pix NYC Loco 999; will pay good price for good cond. Also wants copy *Wide World*, '27. '30 concerning last run of *20 Mule Team Borax* outfit across Death Valley prior caterpillar tractor; will pay $3. cash for copy in fair cond.

JOE B. WATSON, Willard, Mo., has many size 616 Kodak pix; will lend for reprinting if returned.

W. S. WEBER, 6117 Buena Vista Ave., Oakland 11, Calif., will sell Kip Farrington, Jr. *Railroads At War*, excell. cond, $2.

L. D. WEBSTER, 124 Tompkins St., Cortland, N. Y., has first 8 yrs. *Trains* unbound for best offer; also has tts. for sale, trade.

(R) JOSEPH WILHELM, 4123 Danneel St., New Orleans, La., wants RAILROAD, Sept.-Nov. '38; July '35; Feb. '41; Mar. '42. State price, cond.

(R) T. HOWARD WINTERS, 179 Beal St., Trenton 9, N. J., will sell RAILROAD, Jan. '30; Mar., May, July, Aug., Nov., Dec. '32; Dec. '33; '34, exc. Apr.; *Loco Eng. Journ., Moody's, Baldwin Locos;* all good cond. Write for list.

HERBERT WOLTERS, 69 N. Arlington Ave., East Orange, N. J., will sell *Off. Guides, Loco Progress,*

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(R) LAWRENCE WOOLSTON, Jr., 3531 N. 11th St., Philadelphia 40, Pa., will sell 28 issues RAILROAD, '13, '16, '17, '18, $1.50 ea.; Forney's *Catechism of Loco;* McShane's *Loco Up To Date; Reading Mag.; Trains; Baldwin Mags.;* or trade any of above for certain issues RAILROAD, '06 to '19. Send stamp for list.

(R) C. E. ZELL, Box 125, Alameda, Calif., will sell RAILROAD, June '39-May '42, exc. Mar. 40, Apr. '41, Jan. and Mar. '42; $74.75 plus 13 lbs. post.; write first. Send p.c. for list SP, WP, UP emp. rts.

Model Trading Post

L. W. ALTMANN, Box 292, Ross, Calif., wants Buddy L trk.; will buy or swap HO gage eqpmt.

ANTHONY J. AUGUSTITUS, 810 West St., Apt. 9, Union City, N. J., will pay cash for *Lionel* cats. '33 to '41; fair cond.

L. BARRON, 115 Wadsworth Ave., New York City 33, N. Y., will trade model airplane engs. for HO locos; new *Hornet,* slightly used, perf. cond. with extra parts; 2 Cykes, 1 DeLong, 1 Forester, 1st-class cond. for contest work.

R. M. BERRY, Seaside, Ore., has HO 12-volt locos, cars, switches, some new in kit; *Northern* with Vanderbilt tender, switcher, C&O *Articulated.* Wants Lionel 763, switcher or knuckle cplr. type locos or will sell HO at less for cash.

C. BUXTON, R. R. 2, Loveland, O., wants 072, 0, 027, HO, 00, std., S gage eqpmt., any cond.; also transformers. Will trade new Lionel AF eqpmt.

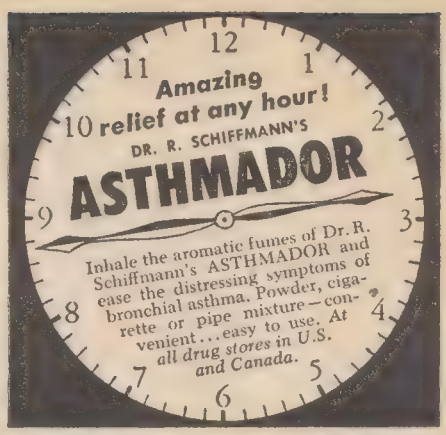
F. E. CLARK, 2516 Darby Rd., Havertown, Pa., will sell or trade std.-gage eqpmt.

DAVID CUNNINGHAM, 919 2nd St., Devils Lake, N. D., will sell Marx streamlined *City of Denver* 4-unit pass. tr., 2 mos. old, excell. running cond., $9.; 2 Marx 90 deg. crossovers, 75c ea.

F. DABRITZ, 107-56—117th St., Ozone Park, N. Y., will sell for cash, GN pass. Diesel 2-rail, $150.; 2 unit A&B frt. Rio Grande colors, $150.; one 2-rail, 6 PRR 3-rail steam type locos, $175.; 1 NYC elec. switcher, 3-rail, $90.; all custom-built. Will take $500. for lot.

ROBERT FORD, R. D. 5, Crofton, Pa., wants advice for making model railroad layout.

MELVIN FRANKEL, 1655 Union St., Brooklyn 13,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The new wonder animals from Syria. Often called Toy Bears. Delightful pets. Everyone wants them. Laboratories need thousands. Clean, odorless. Raise anywhere. A profitable and interesting hobby or business. We furnish breeders and instructions. Write today for free book.

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Quick relief with Dent's. Use Dent's Tooth Gum or Dent's Tooth Drops for cavity toothaches. Use Dent's Dental Poultice for pain or soreness in gums or teeth. At all drug stores.

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REASON IT OUT AND YOU'LL PREFER THIS

ALL-VEGETABLE LAXATIVE

NATURE'S REMEDY (NR) TABLETS —A purely vegetable laxative to relieve constipation without the usual griping, sickening, perturbing sensations, and does not cause a rash. Try NR—you will see the difference. Uncoated or candy coated—their action is dependable, thorough, yet gentle as millions of NR's have proved. Get a 25c box and use as directed.

Nature's Remedy
NR TO-NIGHT TOMORROW ALRIGHT

FUSSY STOMACH?
RELIEF FOR ACID INDIGESTION, GAS AND HEARTBURN

FOR THE TUMMY!

FACE YOUR FRIENDS RICH AND SLICK
KENT'S 8-IN-PACK TURNS THE TRICK

If not available at your dealers, mail 10c for 1 pk. — $1 for 12 pks.

8 BLADES

KENT 10c

RAZOR BLADES

CUPPLES COMPANY, St. Louis 2, Mo.

SELL NYLONS
GUARANTEED AGAINST RUNS!

The ONLY nylon hose in the world replaced FREE (within guarantee period up to 3 months) if they run or snag REGARDLESS OF CAUSE! Nationally advertised. Complete line includes all weights from ultra sheer 15 denier to service weight 60 denier. All sizes, lengths and colors, including white. Also complete line men's fine hosiery guaranteed for ONE FULL YEAR or replaced FREE! Men and women, young or old—you can earn steady income writing orders. We deliver and collect. Advance cash plus big bonus. No experience needed. Spare or full time. Simply mail name and address on postcard for complete FREE money-making sales outfits. Nothing to pay. No obligation.

KENDEX COMPANY - BABYLON, 29, N. Y.

N. Y., wants to contact model rails in his district interested in forming a model railroad club.

GARDNER, 2261 Dewey Ave., Rochester 13, N. Y., wants amusement park 4-4-0, tender, complete.

JOHN A. HORTON, 4115 Francis Ave., Cincinnati 5, O., wants old tinplate, toy catalogs, solid-rail r.c. switches, Ives 1122 or 1694 locos. Can trade many Amer., foreign collectors' items, or pay cash. Has Maerklin 0 gage eqpmt.

A. G. McDUFFIE, 532 Aldebrook Dr., Santa Rosa, Calif., wants continental and English 0 gage eqpmt., cats.; engs.; running cond. not essential.

(*) J. H. McINTYRE, 170-20—118th Rd., Jamaica 5, N. Y., will sell or trade open end cars, trolleys, gas elec., MU units, etc. Send for price list; also his wants.

A. A. MAIDA, 4400 S. Whipple St., Chicago 32, Ill., will sell all his 0 gage eqpmt., incl. Labaugh's *Berkshire, Pacific;* Thomas switcher; G.M. Diesel switcher, 10-wheeler, for 10 percent above cost of kits or best offer. All locos test run only; has car kits, etc., list.

(R) ROSS E. MORRIS, 19 El Camino Real, Vallejo, Calif., will trade 94 issues RAILROAD Nov. '39 to Jan. '49 for 00 gage 2-rail eqpmt.

LARRY PALMER, Wallingford, Pa., wants to buy Lionel 0-6-0 708, running cond. not essential. Also wants any HO PRR locos. exc. GG1s; will pay your price.

HARVEY W. ROE, 68 Lake Ave., Tarrytown, N. Y., wants Lionel std.-gage pass. cars, 412, 413, 428, 430.

JACK E. STRANGER, 1424 S. Ash St., Spokane, Wash., has several new 0 gage kits for 8 mm. camera and movie projector; GM Diesel switcher, GM *Pacific*, 6 Athern boxcars, 5 Walthers boxcars.

T. T. TABER III, 43 Hillcrest Rd., Madison, N. J., offers *Model Railroader* Mar. '39-Feb. '42, $5., $2. a yr.

G. C. UTZ, c/o Mayo Clinic, Rochester, Minn., will buy AF, wide gage, 2¼ in. loco, pref. 4694, good cond. If not this model, state what you have in wide gage.

(R) VICTOR VALENTE, 731 Huntingdon Ave., Waterbury 64, Conn., will swap 71 issues RAILROAD, Mar. '39-July '45, June '36, Mar. '39; 24 back issues *Readers Digest*, for 10 pr. Lionel 027 trucks, compl. with automatic couplers latest type or any 027 eqpmt.

GEO WILLIAMS, 821 E. B. St., Iron Mountain, Mich., has 150 Lionel transformer (K); also 75 Watt transformer with whistle control; 3105 Lionel frt. set with 1666 E.W. loco, all new exc. K; 2 scale tankcars.

FLAGSTOPS

FANTRIPS. California-Nevada Railroad Historical Society, 849 University Ave., Berkeley 2, Calif., will sponsor a trip over Virginia & Truckee, road to be abandoned this May. Excursion will leave San Francisco at 7 p.m. *April 9th*, via WP or SP to Reno. For details of this and a *Memorial Day* run over the McCloud River RR., write A. L. Lloyd, Jr., address above.

Railroad Boosters plan an excursion through Tehachapi Mts. to Bakersfield on *April 24th*, to leave Los Angeles Union Station at 7 a.m. and return at 9:30 p.m. Diner will serve all 3 meals, and there will also be an all-day lunch car. Fare, $6.; half-fare, $3. Inquiries and ticket applications to Cook Reeves, Railroad Boosters, P.O. Box 5279, Metropolitan Station, Los Angeles 55, Calif.

The Railroad Enthusiasts, New England Division, will sponsor a train ride out of North Station, Boston, *May 1st* over Gloucester Branch to Rockport, thence to Salem, Portsmouth, Manchester, Lawrence, Wilmington Jct., Wilmington, Boston—B&M all the way. Leave 9:15 a.m. DST; expenses, $3.70. Contact Cyrus Hosmer, Jr. 34 Chester Rd., Belmont 78, Mass. On Sunday, *June 5th*, trip out of Boston's South Station at 9:15 a.m. DST, over New Haven's Blackstone, Willimantic, "Air Line" via Middletown to New Haven, "Canal Line" to Hartford, thence Willimantic, Providence and Boston. Round trip, 315 miles. For information write Cyrus Hosmer, *address above.*

* * *

MODEL FANS. The Delaware, Susquehanna & Western, owned and operated by the NRHS's West Jersey Chapter, is in the midst of a $1000 improvement program. An 0-8-0 switcher, 10-wheeler, *Pacific* and 1000-hp. Diesel switcher have been added, while several new boxcars, hoppers and two new cabooses make up the roster of recently-acquired equipment. A 4-track freight yard is under construction and power lines are being erected. This ¼-inch pike is located at 639 Clinton St., Camden, N. J. Club quarters are open Friday nights from eight; visitors welcome.

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RUN THE BEST "SHOE STORE BUSINESS" IN YOUR TOWN!

Free! SELLING OUTFIT!

You Don't Invest a Cent! . . . Everything Furnished *FREE!*

You have a profitable "shoe store business" right in your pocket! You have none of the expenses of rent, clerk hire, light, fixtures, etc., of the ordinary shoe store. You are independent—you have an opportunity to make BIG MONEY as long as you care to work, in a business for which there is never-ending demand, because EVERYONE WEARS SHOES. You'll get repeat business from satisfied customers, and even if you start in Spare time, you soon should have an ever-growing, profitable Full-time business that you own 100%.

OVER 150 FAST SELLING STYLES FOR MEN AND WOMEN

You can satisfy the needs and taste of almost every person in your territory—you sell footwear in the finest leathers, latest styles and with exclusive comfort features that cannot be found in retail stores. You offer men and women the best values on the market with a line of over 150 top quality dress, work and sport shoes. The huge demand for our line makes it possible for us to keep our prices down—even lower this year—despite rising leather costs! These savings through tremendous production are passed on, through you, to the folks in your territory.

Guaranteed by Good Housekeeping — REPLACEMENT OR A REFUND OF MONEY IF NOT AS ADVERTISED THEREIN

GOOD HOUSEKEEPING SEAL OPENS DOOR

Recognized by women all over the world as the symbol of quality merchandise, the Good Housekeeping Seal of Approval on Mason Velvet-eez shoes opens doors for you and clinches sales.

EXTRA PROFITS SELLING CLOTHING

In addition to the generous profit you make on every pair of shoes, you have an opportunity to ADD TO YOUR INCOME by selling top quality Leather Jackets, Wool Shirts, Raincoats for men and women.

EXCLUSIVE FEATURES

Velvet-eez

AIR CUSHION CLINCHES SALES FOR YOU!

When you sell this line, you sell FEATURES—features that no other shoe man can offer the folks in your territory—like this wonderful EXCLUSIVE Velvet-Eez AIR CUSHION that brings day-long comfort to men and women who are on their feet on hard floors and pavements from early morning to late night. The Velvet-Eez Demonstrator you'll get free in your Sales Outfit will clinch sales for you as it has for hundreds of other Mason Shoe Men all over the country!

PUT A "SHOE STORE BUSINESS" RIGHT IN YOUR POCKET . . . YOU DON'T INVEST A CENT . . . MAKE BIGGER PROFITS . . . NO STORE OVERHEAD... EXCLUSIVE SALES FEATURES BUILD YOUR REPEAT BUSINESS

HUGE NATIONAL ADVERTISING PROGRAM BACKS YOU

● You get the benefit of big, powerful ads in scores of magazines like Saturday Evening Post, Good Housekeeping, etc. People know Mason—are eager to get the special Personal Fitting Service we advertise for your benefit. And remember, we pay for all this advertising—it doesn't cost you a cent.

LEO DE MATO, WHO AVERAGES SIX SALES PER DAY, SAYS:

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Set me up for BIG PROFITS in '49! Rush me FREE Selling Outfit featuring Water Buffalo, Zipper and Air Cushion Shoes, Leather Jackets, other fast-sellers. Show me how National Advertising makes more customers and profits for me. Send everything Free and Postpaid. (My own shoe size is .....)

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Pen, $15.00—Pencil, $5.00
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"Greatest Pen Value" means more for your money! And Sheaffer's Sentinel *gives* you more—finer quality, perfect performance, outstanding beauty—the product of costly materials, skilled craftsmanship and modern mechanical precision. Try Sentinel now for a new experience in writing pleasure!

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